Jordan

Contraceptive Logistics System

Review of Accomplishments and Lessons Learned (1997–2000)

Sandhya Rao

FPLM

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The Family Planning Logistics Management (FPLM) project is funded by the Center for Population, Health and Nutrition for the Bureau for Global Programs, Field Support and Research, of the U.S. Agency for International Development (USAID). The agency's Contraceptives and Logistics Management Division provides a centralized system for contraceptive procurement, maintains a database on commodity assistance, and supports a program for contraceptive logistics management.

Implemented by John Snow, Inc. (JSI) (contract no. CCP-C-00-95-00028-00), and subcontractors (The Futures Group International and the Program for Appropriate Technology in Health [PATH]), the FPLM project works to ensure the continuous supply of high-quality health and family planning products in developing countries. FPLM also provides technical management and analysis of two USAID databases, the contraceptive procurement and shipping database (NEWVERN); and the Population, Health, and Nutrition Projects Database (PPD).

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Abstract

From August to November 1999, the Family Planning Logistics Management (FPLM) project conducted a two-phase national study in Jordan to assess the performance of the Jordan Contraceptive Logistics System (JCLS) and to document the outcome and effectiveness of technical assistance provided by FPLM to the Royal Hashemite Kingdom Ministry of Health, Royal Medical Services, nongovernmental organizations, and the Jordan Association for Family Planning and Protection, an affiliate of the International Planned Parenthood Federation. FPLM, implemented by John Snow, Inc., provided logistics assistance in Jordan, primarily through the work of a full-time resident advisor, from January 1997 to December 1999. This report documents the results of the 1999 assessment, provides baseline comparisons to 1997 data, distills lessons learned, and makes recommendations for JCLS stakeholders. [Keywords include Jordan, contraceptives, logistics, assessment, effectiveness, outcome, family planning, John Snow, Inc., Family Planning Logistics Management.]

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Acronyms

AIDS	acquired immune deficiency syndrome
AED	Academy for Educational Development
AVSC	Association for Voluntary Surgical Contraception
CA	cooperating agency of USAID
CDC	Centers for Disease Control and Prevention (United States)
CISS	composite indicator status score
CLM	Commodities and Logistics Management Division of USAID
CPP	Contraceptive Post-Partum Project
CPT	contraceptive procurement table
CWICS	Central Warehouse Inventory Control System
CYP	couple-year of protection
DAR	daily activity register
DHS	Demographic and Health Survey
EU	European Union
FEFO	first-to-expire, first-out
FP	family planning
FPLM	Family Planning Logistics Management project
HC	health center
HIV	human immunodeficiency virus
IPPF	International Planned Parenthood Federation
IUD	intrauterine device
JAFPP	Jordan Association for Family Planning and Protection
JAFS	Jordan Annual Fertility Survey
JCLCIS	Jordan Contraceptive Logistics Central Information System
JCLS	Jordan Contraceptive Logistics System
JHU	Johns Hopkins University
JICA	Japanese International Cooperation Agency
JPFHS	Jordan Population and Family Health Survey
JSI	John Snow, Incorporated
LAM	lactational amenorrhea method
LMIS	logistics management information system
LO	logistics officer
LPS	local program support
max-min	maximum-minimum
MCH	maternal and child health
MIS	management information system
MOH	Ministry of Health
MOS	months of supply
NGO	nongovernmental organization
NPC	National Population Commission
O/PFH	Office of Population and Family Health
PHCI	Primary Health Care Initiatives
RA	resident advisor
RMS	Royal Medical Services
SDP	service delivery point
SLO	senior logistics officer
STI	sexually transmitted infection

STTA	short-term technical assistance
TA	technical assistance
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
U.S.	United States
USAID	United States Agency for International Development
USAID	United States Agency for International Development/Jordan
VFT	vaginal foaming tablet
WHO	World Health Organization

Preface

The study documented in this paper, conducted from August to November 1999, is a final assessment of the Family Planning Logistics Management project activities in Jordan prior to the withdrawal of the resident advisor in December 1999. The study's main purpose was to assess the current performance of the Jordan Contraceptive Logistics System and to document the outcome and effectiveness of technical assistance provided by the Family Planning Logistics Management project to the Ministry of Health, the Jordan Association for Family Planning and Protection, the Royal Medical Services, and various nongovernmental organizations.

This assessment would not have been possible without the assistance of those who have managed the contraceptive logistics system on a daily basis for the past three years: Walter Proper, Abeer Mowaswas, Muna Al-Kharim, and Nasser Jarrar. The author would also like to thank Lina Qushair and William Goldman, USAID/Jordan, for their facilitation of the assessment activities. Naomi Blumberg, USAID/Washington, provided a great deal of technical support and encouragement. Thanks also to the numerous editors and reviewers of this report, including Gerry Breton, Anthony Hudgins, Willow Gerber, Steve O'Reilly, Gus Osorio, and Lisa Mueller.

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Executive Summary

Scope of Assessment

From August to November 1999, the Family Planning Logistics Management (FPLM) project conducted a two-phase national study in Jordan to assess the performance of the Jordan Contraceptive Logistics System (JCLS) and to document the outcome and effectiveness of technical assistance (TA) provided by the FPLM project to the Royal Hashemite Kingdom Ministry of Health, Royal Medical Services (RMS), nongovernmental organizations (NGO), and the Jordan Association for Family Planning and Protection (JAFPP), an affiliate of the International Planned Parenthood Federation (IPPF). FPLM, implemented by John Snow, Inc. (JSI), provided logistics assistance in Jordan, primarily through the work of a full-time resident advisor, from January 1997 to December 1999.

The 1999 assessment described in this document was conducted in two phases, each with its own distinct goal. The goal of Phase I, implemented from August to September, was to determine changes in system performance by conducting a quantitative endline survey using a set of questionnaires modeled on those used to collect baseline data in 1997. Phase I data includes information on contraceptive availability, system performance, and capacity building. The goal of Phase II, implemented from October to November, was to assess qualitative outcomes and to distill lessons learned through qualitative interviews with key stakeholders of the system. Phase II data includes information on stakeholder perceptions of logistics investments, contraceptive security, FPLM TA strategies and performance, system sustainability, and accomplishments.

Interviews were conducted with Ministry of Health (MOH) management and service delivery personnel, JAFPP and RMS managers and health workers, United States Agency for International Development (USAID) officials, and FPLM technical advisors. Given that the most important stakeholders of the contraceptive logistics system are the end users of the supply chain, the assessment instruments included questions on client perceptions where appropriate. Although direct client interviews were not conducted for this assessment, a few proxy measures of client satisfaction (e.g., trends in contraceptive use) have been included in this report.

By documenting the accomplishments of those who have developed the system and by distilling lessons learned regarding the strengths and limitations of TA strategies, this report provides useful information not only for the various stakeholders of the system, but also for other programs and organizations that may consider adopting this model elsewhere.

FPLM Technical Assistance Strategy

FPLM technical assistance was provided primarily by a full-time resident advisor (RA), with short-term technical assistance visits from other FPLM/Washington personnel, from January 1997 until December 1999. During this time, technical assistance focused on developing a new logistics system to be managed by the Maternal and Child Health (MCH) Directorate of the MOH. As part of this assistance, emphasis was placed on the transfer of system management skills to the senior logistics officer (SLO), Abeer Mowaswas, whose position in the MCH Directorate was created at the beginning of FPLM long-term technical assistance. Both the FPLM RA and the SLO began work simultaneously, which facilitated the efficient and expedient transfer and institutionalization of logistics management capabilities.

FPLM technical assistance from 1997 to 1999 focused on the strategies below. Interventions corresponding to each of these strategies are elaborated in section 2.0.

- Appointment of FPLM resident advisor
- Transfer of skills to senior logistics officer, MOH
- Participatory design
- Capacity building
- Use of data to inform implementation
- Attention to policy.

Major Accomplishments

In just three years, through a series of strategic activities and attention to selected policy interventions, the JCLS has made great strides toward improving the availability and decreasing the wastage of contraceptives in Jordan. It has revolutionized the family planning supply chain and virtually eliminated stockouts of contraceptives throughout the Kingdom. FPLM technical assistance in training, combined with MOH commitment to sustain efforts, has improved the capacity of health workers to manage the system and has increased Jordan's ability to collect and use timely and accurate information. In addition, the involvement of key stakeholders from the outset of the performance improvement process has resulted in a high level of local ownership of the system, increasing the probability of long-term sustainability.

Figure A.
Overview of Accomplishments, 1997–1999

In addition to the accomplishments shown in figure A, the JCLS has improved contraceptive logistics management in the following specific ways over the last three years:

- **Reduction of stockouts at health centers and directorates.** In 1997, 85 percent of health centers and 72 percent of directorates stated that they had experienced a stockout of at least one of the four main contraceptives in the last six months. The 1999 assessment showed a dramatic improvement, with only 10 percent of health centers and 5 percent of directorates stating that they had experienced a stockout in the last six months.

- **Reduction of overstocks at health centers and directorates.** In 1997, 41 percent of directorates and 15 percent of health centers had over one year's supply of intrauterine devices (IUD). These overstocks were leading to the expiration of IUDs still in storage, an incredible waste of contraceptive funding. As a result of JCLS improvements, no facilities were overstocked with IUDs in 1999 at the time of this assessment.

- **Improved storage conditions.** In 1997, 57 percent of directorates and 58 percent of health centers correctly organized their contraceptives, including showing labels with expiration dates and keeping products separated. In 1999, this percentage almost doubled, with 96 percent of health centers and 100 percent of directorates correctly organizing contraceptives. In addition, nearly 100 percent of all facilities now store contraceptives away from chemicals and pesticides.

- **Improved accuracy of record keeping.** Figures for 1997 showed that only 30 percent of health centers and 25 percent of directorates kept accurate records of their contraceptive inventories. This figure more than doubled over the next three years to 63 percent of health centers and 52 percent of directorates.

- **Improved accuracy of dispensed to user data.** In 1997, 65 percent of health centers provided accurate dispensed to user data. By 1999, 90 percent of health centers were providing accurate dispensed to user data on their *Health Center Monthly Contraceptive Order & Report Form*.

The increase in accuracy of reporting, combined with an improvement in storage conditions and appropriate stock levels, has led to a decrease in losses due to expirations and damage and an increase in the availability of contraceptives throughout the Kingdom.

Finally, the JCLS information system shows an increase in couple-years of protection (CYP) and the number of new users of family planning from 1997 to 1999, especially for IUDs, suggesting an association between the increase in contraceptive availability and the corresponding increase in family planning utilization trends. Although this study does not attempt to test and validate these relationships statistically, it does provide qualitative evidence to support an association between contraceptive availability and an increase in CYPs.

Lessons Learned

This paper has been written not only to report on accomplishments, but also to distill lessons learned that to share with others who may profit from wisdom gained through risks undertaken and failures endured. While this report demonstrates that the benefits of the JCLS and FPLM technical assistance far outweigh financial and opportunity costs, it is important to highlight some of the obvious challenges faced by stakeholders to avoid unnecessary repetition of unsuccessful strategies. The following are a few of the lessons learned by stakeholders from their work with the JCLS between 1997 and 2000:

- Hire a resident advisor to improve continuity of implementation.

- Ensure efficient skills transfer to the central level of local institutions.

- Involve key stakeholders at major stages.

- Keep systems development in step with the skills development of local managers.
- Use routine and research data to inform implementation.
- Monitor, supervise, and provide feedback.
- Build training capacity within the local institution.
- Maintain vertical logistics systems where appropriate and feasible.

Recommendations

The following are principal recommendations made to the central level of the MOH by the FPLM/Jordan project prior to its termination at the end of 1999:

1. The Logistics Unit should be maintained in the MCH Directorate.
2. The MCH Directorate should continue to support annual monitoring trips to sample facilities in each directorate.
3. Annual feedback meetings of midwives should be convened in each directorate.
4. The MCH and other central-level directorates should use logistics data to make informed program decisions (e.g., determining method mix, allocating scarce human resources based on need, determining outreach and supervision needs, determining true acceptance of new and continued methods).

Recommendations made by FPLM/Jordan to the directorate level of the MOH at the end of 1999 were the following:

5. The directorates should use JCLS feedback reports to monitor programs and make informed decisions (e.g., tracking trends in contraceptive use, using CYP to calculate method mix, analyzing trends of new and continuing family planning users, comparing current and past performance of a given health center, comparing performance between service delivery points).
6. The directors of the directorates should continue to manage, supervise, and support midwives and MCH doctor supervisors in their logistics activities.

Additional recommendations, which resulted from this assessment, include the following:

7. Technical assistance should continue to be provided to the SLO in the preparation of contraceptive procurement tables and PipeLine software projections.
8. USAID/Jordan should jointly develop plans with the MOH for the continuation or phase-out of contraceptive donations after 2004. Plans should be communicated to the donor and cooperating agency communities and allow for sufficient lead time in the event of phase-out. By proactively developing these plans, USAID/Jordan will be better able to protect the huge investments and achievements of the system to date. If USAID does plan to phase out contraceptive donations, a plan should be put in place well in advance to build the capacity of the MOH to procure and budget for contraceptives.

9. Linkages should be fostered among USAID, the MCH directorate, and the USAID-funded Primary Health Care Initiatives (PHCI) project to explore technical assistance and/or funding opportunities that strengthen supervision, monitoring, and training for logistics.

10. The MOH should make every effort possible to maintain a cadre of logistics trainers within the MOH, providing them with periodic refresher training and information on changes made to the system.

11. Given the system's vulnerability to turnover at the central level, the MOH should increase the depth and breadth of logistics knowledge and skills at this level to prevent losses due to rotation of personnel within the MCH Directorate. Although the JCLS is virtually institutionalized, the responsibility of the entire system rests with just two individuals at the central level. Its success and sustainability will depend on its ability to remain an autonomous entity, independent of the contributions of specific individuals.

12. Follow-up actions recommended in the epilogue should be considered by the relevant stakeholders of the JCLS (see 7.0).

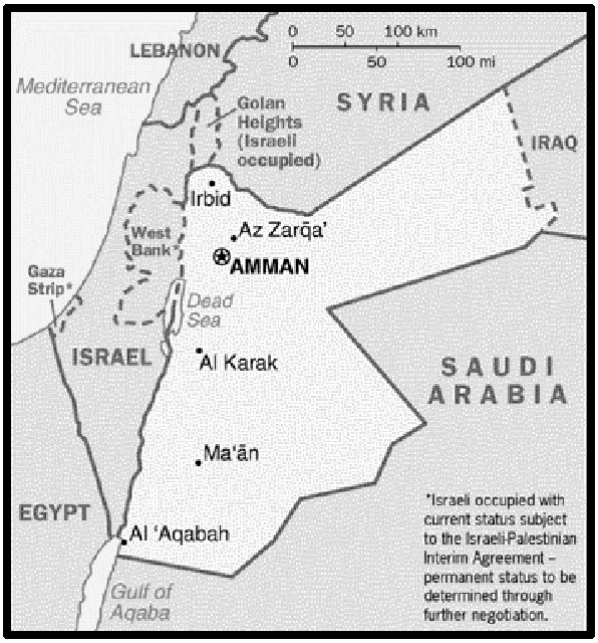
During the past three years, the Jordan MOH has demonstrated its exceptional ability to transform technical assistance into effective and sustainable local action and commitment. With support from political leaders, government managers, and health workers, the JCLS has enormous potential for growth and viability. This paper outlines the accomplishments to date and considerations for the future.

1.0 An Introduction to Jordan

1.1 Economy and Geography

The Hashemite Kingdom of Jordan is divided into 12 governorates, which are grouped into three regions—the North region (Irbid, Jarash, Ajloun, and Mafraq); the Central region (Amman, Zarqa, Balqa, and Madaba); and the South region (Karak, Tafielah, Ma'an, and Aqaba). The major cities are Amman (the capital), Zarqa, and Irbid (figure 1.1). Despite national government control of most community services, Jordan is moving toward a free-market economy. Although per capita income rose from U.S.$1,172 in 1990 to U.S.$1,723 in 1997 (Central Bank of Jordan 1995, 1998), recently, as a result of the worldwide economic recession, the Jordanian economy has suffered from structural disparities.

Figure 1.1.
Geopolitical Map of Jordan



As of 1997, the population of Jordan was estimated at 4.6 million. The country has experienced a rapid rate of population growth, averaging 4.8 percent between 1961 and 1979 and 4.4 percent between 1979 and 1994. The high rate of growth has been primarily due to the influx of immigrants from the West Bank and the Gaza Strip in the late 1960s, the inflow of large numbers of guest workers, the high rate of natural increase (approximated at 3.3 percent), and the return of approximately 300,000 Jordanian nationals as a result of the 1990 Gulf War. Over the last several decades, these sudden increases in population have created a variety of problems, including shortages of food, housing, and employment opportunities. It is expected that the population of Jordan will increase to 5.9 million by the year 2005 (DOS and MI 1998).

1.2 Population Policies and Family Planning Practices

Until recently, Jordan had no official population policy. In 1973, the National Population Commission (NPC) was established, with a mandate to formulate and implement a national population policy and to address all population-related activities. However, because of the controversy surrounding the design of a policy and the sensitive nature of the topic, the NPC took no concrete actions toward finalizing a policy. The commission was revitalized in the late 1980s to represent several agencies working in the field of population. Between that time and 1993, both public and private sectors made efforts to provide family planning services. The Ministry of Health (MOH), through its Maternal and Child Health (MCH) Centers, provided optional and predominantly free family planning (FP) services as an unofficial and indirect intervention in the population policy. In addition, the efforts made by the Jordan Family Planning and Protection Association (JAFPP), as well as by some voluntary nongovernmental organizations (NGO), contributed greatly to the provision of FP during this era.

In 1991, the NPC adopted the Birth Spacing National Program (originally launched by the MOH) and prepared and submitted a proposal to the government and the public as a suggested population policy. This program was discussed nationwide and, in 1993, the government approved the program as an official population policy, taking into consideration the religious, social, national, and free-choice dimensions of Jordanian society.

Whereas, prior to 1997, only the term, "birth spacing," could be used in official references to family planning, in recent years the government of Jordan has become more accepting of the concept of family planning. In 1997, the MOH approved wider official use of the term, "family planning," and launched a television-based information campaign in support of family planning. During 1997 and the first half of 1998, the NPC complemented the Ministry's efforts through a series of workshops and seminars throughout the Kingdom, and international donor agencies were allowed to begin providing support to a number of family planning projects.

Family planning services are currently provided by a number of organizations in Jordan. According to the 1997 Demographic and Health Survey (DHS), about 28 percent of contraceptive users obtain services from the MOH's Maternal and Child Health and Primary Health Care centers and hospital-based clinics to receive contraceptive services. Another 24 percent go to the Jordan Association for Family Planning and Protection (JAFPP), an affiliate of the International Planned Parenthood Federation (IPPF), which currently has 21 clinics and two mobile units. The remaining contraceptive users go to private hospitals, physicians, pharmacies, Royal Medical Services (RMS) (military hospitals), and various NGOs, including the Soldiers Family Welfare Society and the Queen Noor Foundation.

A comparison of contraceptive prevalence data from the 1997 Jordan Population and Family Health Survey (JPFHS) and the 1998 Jordan Annual Fertility Survey (JAFS) show an increase in family planning utilization, which may indicate the extent to which Jordanian couples have responded positively to the greater availability of family planning information and services since early 1997 (Jordan Department of Statistics 1999). A further comparison of the JPFHS, JAFS, and Jordan Contraceptive Logistics System (JCLS) data demonstrates a possible association between the increase in couple-years of protection (CYP) and new users with the greater availability of commodities and services in Jordan. Further evidence of these associations is given in section 4.1.2.

Table 1.1 provides trend data while figure 1.2 shows the latest data on contraceptive method mix. As of 1998, 71 percent of current users of modern contraceptive methods obtained their supply of contraceptives from the private medical sector (of which JAFPP accounted for 30%) and 28 percent obtained their supplies from the public sector (including the RMS). Most Jordanian couples obtain substantially more expensive methods, such as Norplant® implants and female sterilization, from government facilities,

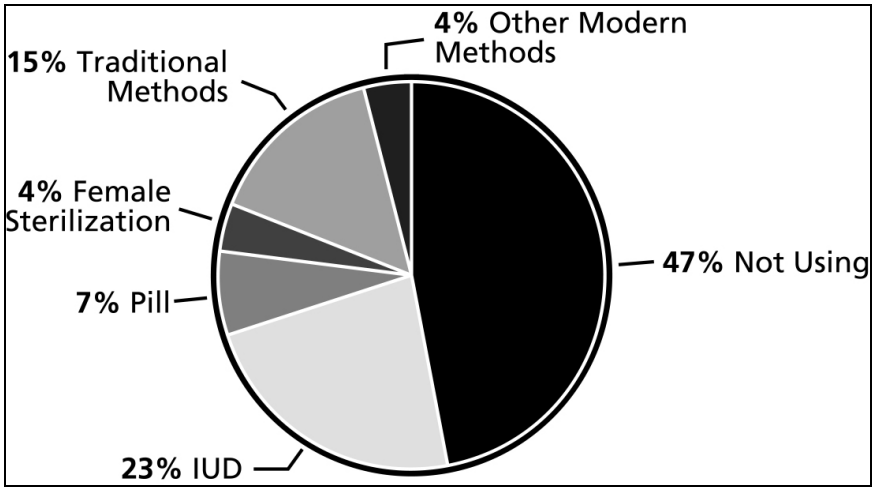
while three out of four women report obtaining contraceptive pills, condoms, diaphragms and other vaginal contraceptives, and intrauterine devices (IUD) through private sector sources.

Table 1.1. Trends in Contraceptive Use

	JFS 1976	JFFHS 1983	JPFHS 1990	JPFHS 1997	JAFS 1998
ANY METHOD	22.8	26.0	35.0	50.3	53.5
ANY MODERN METHOD	17.3	20.8	26.9	37.7	38.7

Note : Does not include prolonged breastfeeding as a method

Figure 1.2
Contraceptive Method Mix, 1998



Source: DOS and MI, 1998

1.3 Donor Inputs and Coordination

Donor coordination in Jordan has been successful. The MOH works with and conducts coordination meetings with donors; the United States Agency for International Development (USAID) mission personnel have been very interested in collaboration; and donor representatives attending coordination meetings have the authority to make administrative and financial decisions. FPLM has taken part in donor collaboration and coordination meetings over the last three years. Meetings take place as required and have often been called by the FPLM project or USAID when contraceptive logistics has been at stake. Topics for discussion during these donor coordination meetings have included who buys which commodities, how much donors can pay for these commodities, and who pays for logistics training and printing of forms.

An example of this donor coordination is the entry of the United Nations Population Fund (UNFPA) in the funding of logistics activities. In 1997, donor meetings focused on the lack of funds in the USAID field support mechanism to train MOH personnel on a new system. As a result, UNFPA expressed a willingness to look at funding activities such as training and the printing of new forms and manuals. Based on an estimate of needs prepared by the FPLM resident advisor for USAID, UNFPA agreed to support the expenses of the national design workshop, printing of new forms and manuals, hotel costs associated with the training of trainers, and a computer to support logistics activities of the MCH directorate. Strong interest has been expressed by both USAID and UNFPA to coordinate and maximize efforts to strengthen family planning services, improve contraceptive supply, and increase efficiency in contraceptive logistics management.

A variety of donors provide funding and support to the MOH, local nongovernmental organizations, and private contractors in Jordan to improve the quality, accessibility, and availability of family planning and health services throughout the country. These include, *inter alia*, USAID, UNFPA, IPPF, Joint United Nations Programme on HIV/AIDS (UNAIDS), World Health Organization (WHO), and the European Union (EU). USAID, however, has been the primary donor of contraceptive commodities and logistics management in Jordan. Tables 1.2, 1.3, and 1.4 outline funding for reproductive health services, commodities, and logistics activities.

Table 1.2. Funding for Commodity Supply and Logistics Management in Jordan[a]

Type of Activities	Agencies			
Contraceptives	**USAID**	**UNFPA**	**IPPF**	**EU**
Procurement	X	X	X[b]	X
TA: logistics	X			
Training: international	X			
Training: local	X	X		
Funding: LPS[c]	X	X[d]		
STI	**MOH**			
Procurement: regents/tests	X			
Procurement: treatment drugs	X			
HIV/AIDS	**UNAIDS**			
Procurement: HIV regents	X			
Procurement: condoms	X			
Vaccines	**UNICEF**	**MOH**	**WHO**	
Procurement	X	X		
TA: logistics			X	
Funding: LPS				
Essential Drugs	**MOH**	**WHO**		
Procurement	X			
TA: logistics		X		
Funding: LPS	X			

[a] Notes:

- UNFPA contribution to contraceptive supply and management is U.S.$200,000.
- USAID contributes 90 percent of all costs to the management and supply of contraceptives to Jordan.
- No new donors have started working in Jordan in the area of contraceptive supply and management.
- UNFPA was providing Microgynon, but has since discontinued donations of commodities such that USAID is now the sole donor of contraceptives in Jordan.
- Ovrette, the progestin-only pill, replaced Femulen once it was registered in the country.

[b] Funded by USAID.

[c] LPS–Local Program Support (warehousing costs, transportation costs, staff time, per diem, etc.).

[d] Printing of forms.

Table 1.3. Contraceptive Brands Donated to Jordan[a]

Contraceptive Brand	Chemical Composition[b]	Supplier	Program Receiver
Condoms			
No logo		USAID	MOH, RMS, JAFPP
Implants			
Norplant®	h′′′′1	USAID	MOH,RMS, JAFPP
Injectables			
Depo-Provera®	d′′′1	USAID	MOH, RMS, JAFPP
IUDs			
IUDs Cu T 380		USAID	MOH,RMS, JAFPP
Oral Contraceptives: combined			
Lo-Femenal, Blue Lady®	h4	USAID	MOH, RMS, JAFPP
Microgynon	h4	UNFPA	MOH, RMS, JAFPP
Oral Contraceptives: Progestin Only			
Femulen®	b′′1	UNFPA	MOH, RMS, JAFPP
Ovrette®	h′′1	USAID	MOH, RMS, JAFPP
Vaginal Foaming Tablets			
Conceptrol/ VFT		USAID	MOH, RMS, JAFPP

a As of 1999, USAID was the sole provider of contraceptives. While Microgynon and Lo-Femenal are of the same chemical composition, Microgynon is no longer being supplied. The current supplies in the country are expected to be used up by the end of the year.

b Coding according to that established in the *Directory of Hormonal Contraceptive, 1996*, IPPF Medical Publications. Same codes indicate that the brands are made of the same chemical composition.

Table 1.4. Donors, NGOs, and Cooperating Agencies Working in the Area of Reproductive Health

Area of Rep. Health	NGOs	CAs	Donors	Others
Support to logistics management		JSI/FPLM	USAID UNFPA	
Provision of family planning services	JAFPP Queen Alia Foundation Noor Hussein Foundation Arab Women Association	Pathfinder[a] AVSC AED[b] JSI[c] JHU[d] Futures[e] Deloitt-Touche[f] Abt Associates	USAID JICA UNFPA	MOH
Prevention and treatment of sexually transmitted infections				MOH
Promotion of condoms for the prevention of HIV	JAFPP	JHU	UNAIDS[g]	MOH

1.4 Status of Contraceptive Logistics in Late 1996—Early 1997

"There used to be no trust between the central and periphery levels, no system of ordering. The lower levels used to ask for more than they needed, knowing that they would get less...and sometimes they would get far more than what they asked for because there was a surplus at the central level. There was accumulation, wastage, and misuse of drugs and contraceptives at all levels."

— USAID/Jordan official, 1999

Although in 1996, USAID/Jordan has changed one of its strategic objectives to "increased use of modern contraceptive methods" and were providing donated contraceptives to the MOH, it was clear that there was no proper system in place to protect USAID/Jordan's commodity investments. There were many stockouts and a great deal of wastage, as demonstrated by the mandated destruction of 7,000 expired IUDs in early 1997. The Director of the Office of Population and Family Health (O/PFH) requested that a

a Comprehensive post-partum project.

b Lactational amenorrhea method (LAM) project.

c Sustainability project and FPLM.

d Population communication services project.

e Policy project.

f Commercial marketing strategies project.

g Provided one consignment of condoms in 1996.

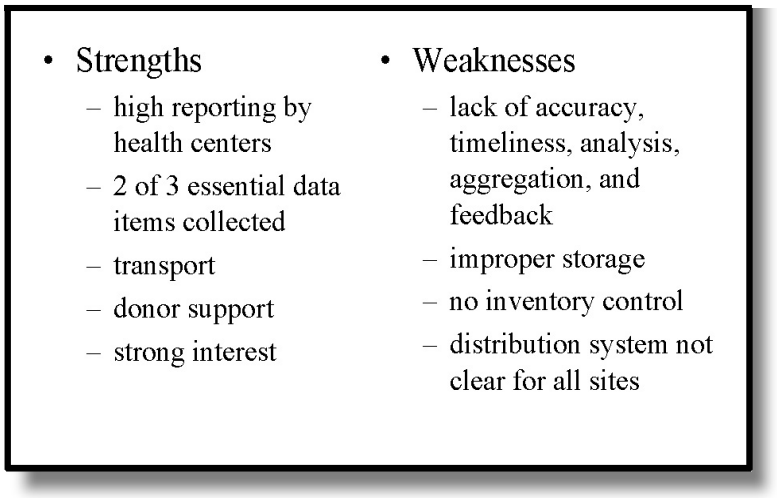
logistics system assessment be conducted in Jordan by the Centers for Disease Control and Prevention (CDC) to systematically analyze the current status of contraceptive logistics and make recommendations for its improvement.

The CDC report found that standard contraceptive logistics management procedures were not always adhered to in Jordan. Although contraceptive forecasting was based on consumption data, it was not meeting demand, as consumption was skewed due to the lack of availability of contraceptives at service delivery points (SDP). Understocking of contraceptives was observed at every site, and numerous sites were stocked out of one or more contraceptive products. Virtually all MOH personnel complained of insufficient supplies to meet the demand of new and continuing users of family planning. Personnel were not familiar with the basic elements of inventory control systems and maximum and minimum supply levels were not maintained, leading to contraceptives being ordered only when they stocked out (Hawkins and Binzen 1996).

Following the establishment of FPLM in Jordan and the appointment of a resident advisor, FPLM conducted a national situation analysis that collected data through field visits to all 20 directorates and over 27 percent of the health centers providing FP services. The results of the analysis, which serve as baseline for the 1999 assessment, showed excellent reporting rates for the MOH (100 percent collection of data, with a near-perfect record of availability of reports and records at field level); adequate storage space; and good transportation. Transport of contraceptive supplies from the MCH warehouse was the responsibility of the health directorate, under which the MCH centers administratively fall. In general, transportation was not a critical problem, although some directorates reported a lack of continuous access to vehicles for transport of commodities.

The 1997 situation analysis also showed that, despite 100 percent reporting of health center data, reports were not always submitted in a timely fashion, and accuracy of reported data needed improvement. For example, the majority of inventory book entries did not match the actual inventories available at both health center and directorate levels. Also, the system at the time did not collect dispensed data by brand, but rather by type of contraceptive. In addition, no set inventory control system was being used, and most staff were forced to guess the amount of commodities to request or send to the level below. This lack of a formal inventory control system resulted in stockouts at some health centers, while other centers (sometimes in very close proximity) may have had more than one year's supply of the same product needed by their neighbor. Storage conditions were found to be quite good, although almost 25 percent of health centers were storing pesticides or other chemicals near contraceptives. Overall, personnel had not been trained in logistics and were left to find their own methods of inventory control and storage practices. There were no written manuals or procedures, and all personnel reported a lack of formal training in contraceptive logistics. Figure 1.3 provides an overview of the strengths and weaknesses of contraceptive logistics in Jordan in 1997.

Figure 1.3
Logistics Situation Analysis Baseline Findings, 1997



2.0 FPLM Technical Assistance Strategy in Jordan

In 1996, following publication of the CDC findings, USAID/Jordan expressed its interest in supporting the development of a logistics system in Jordan. According to the Director, O/PFH, USAID/Jordan, most health programs receiving only short-term technical assistance lacked the proper follow-up needed to achieve sustainable successes. The CDC report recommended, and it was agreed by USAID, that a full-time resident advisor (RA) was necessary to ensure the continuous and efficient transfer of skills to the host country.

Therefore, in December 1996, the FPLM project appointed an RA in Jordan. From January 1997 to December 1999, FPLM technical assistance was provided primarily by the resident advisor with short-term technical assistance visits by FPLM/Washington personnel. During this time, technical assistance focused on developing a new logistics system to be managed by the MCH Directorate of the MOH. As part of this assistance, great emphasis was placed on the transfer of system management capabilities to the senior logistics officer (SLO), whose position, physically based in the MCH Directorate (but administratively based in the Planning Directorate), was created at the beginning of FPLM long-term technical assistance. Both the FPLM RA and the SLO began work simultaneously, facilitating the efficient and expedient transfer and institutionalization of logistics management capabilities.

The FPLM technical assistance strategy from 1997 to 1999 focused on the following areas with the corresponding interventions.

2.1 Appointment of FPLM Resident Advisor

During meetings held with the MCH Directorate and USAID, it was agreed that the RA would have an office at the directorate, not at the MCH warehouse. This was critical to elevating the status and importance of logistics and ultimately essential to the creation of the Logistics Unit within the MCH Direc-torate. In addition, it was agreed that establishing an efficient contraceptive distribution and management information system required that the RA have a counterpart, the SLO in the MCH Direc-torate, who would work closely with him during the duration of his assignment. It was also agreed that this counterpart would be hired as soon as possible to coincide with the beginning of the FPLM resident advisor's work in Jordan. The RA assisted with this effort by developing a job description that ultimately aided the MOH in its search for the most appropriate person. It was clear in all meetings of concerned parties that there was a great deal of enthusiasm for someone in the MOH to take primary responsibility for establishing an efficient logistics supply system.

Principal activities of the resident advisor included—

- Facilitating the communication needed between donors and the MOH for the procurement of the required contraceptives.
- Transferring skills to the SLO on a daily basis (see 2.2).
- Managing and implementing logistics activities as detailed below (see 2.2–2.6).

2.2 Transfer of Skills to Senior Logistics Officer, MOH

"No other project has left behind a person with the same level of knowledge. Abeer's presence is a unique element. We never had a direct counterpart who was really empowered in the MOH before. She has played a critical role in the success of this activity. This has been the most successful skills transfer I have seen."

— USAID official, 1999

One of the key findings of the 1996 CDC assessment was that the MOH contraceptive logistics system "lacked an identified individual who was assigned the responsibility of overseeing the contraceptive distribution system and ensuring its effective management" (Hawkins and Binzen 1996). Although the SLO was placed in the counterpart position at the same time as the FPLM resident advisor, it took two and a half years to move her from the Planning Directorate to the MCH Directorate, where the FPLM RA had been placed and where the contraceptive logistics system was housed. Regardless, the appointment of an SLO was critical to the efficient transfer of skills to the MOH. In addition, a logistics data entry officer (LO) was assigned to assist the SLO in the implementation and monitoring of the system. The following are a few of the activities conducted by FPLM to strengthen the capacity of the SLO and LO:

- Providing one-on-one training to the SLO and LO.
- Sending SLO and LO to the FPLM U.S.-based Logistics Training Course.
- Training SLO in forecasting methodology.

2.3 Participatory Design

Local counterparts of the three host-country institutions (MOH, JAFPP, and RMS) were involved from the very beginning of program activities, creating a sense of local ownership of the JCLS among policymakers, managers, and health providers. The MOH designed the system, with guidance from FPLM, based on data generated by the 1997 situation analysis, which was presented to participants during the National Contraceptive Logistics System Design Workshop. Workshop participants were able to see how the logistics system (e.g., inventory levels, supply status, lead time, reorder period, etc.) was functioning and were encouraged to make suggestions for its improvement. Key findings and recommendations were documented, decisions were made, and new logistics forms were drafted together with the participants. The participatory design process began during this workshop, and continued over the next three years through the sustained involvement of policymakers, managers, and health providers of all three host-country institutions.

Participatory activities conducted by FPLM included—

- Gathering of data during logistics situation analysis on when health staff would like to place and receive their contraceptive orders.
- Involvement of host-country staff from all levels of the MOH, including midwives, health center directors, midwife supervisors, MCH doctor supervisors, health directorate management, and the Directorate of Supply in the National Contraceptive Logistics System Design Workshop.

- Use of situation analysis results in the 1997 design workshop with staff from all levels of the system, creating local ownership by having participants make decisions about their own circumstances.
- Design of logistics information forms by participants of the design workshop.

2.4 Capacity Building

"[In 1996], MOH personnel lacked knowledge about accepted logistics practices."

— Hawkins and Binzen, 1996

As a response to this lack of logistics knowledge, an essential part of the FPLM technical assistance strategy was to improve the capacity of MOH, RMS, and JAFPP personnel to manage a logistics system. As a result, nearly 100 percent of all personnel involved in logistics-related activities were trained by the end of 1999, and a cadre of trainers now exists in the MOH who can be called on to conduct refresher training or training for new personnel in logistics. The training strategy for MOH trainers focused on the development of stand-up training skills and participatory techniques. Participant trainers underwent a two-week content training in logistics, a competency-based exam without a manual, and a two-week intensive training methodology course using the logistics curricula developed by the MOH and FPLM. The cadre of trainers also reviewed the procedures manuals ultimately distributed to all logistics-related personnel in the Kingdom. The existence of this training cadre, which includes doctors, nurses, chemists, pharmacists, and other well-educated professionals, is a key ingredient in the institutionalization of the JCLS (see 4.2.4).

Training for health personnel, including midwife supervisors, nurses, midwives, MCH doctor supervisors, doctors, and warehouse managers, included the following topics: inventory control, logistics forms and reports (e.g., daily activity register, contraceptive order and report forms, emergency order procedures, physical inventory procedures, first-to-expire, first out [FEFO], obtaining supplies, and personnel job responsibilities). Appendix B provides an overview of the logistics-related responsibilities of all trained personnel.

In addition to the logistics training given to the SLO and the LO (see 2.2), the following is a comprehensive list of capacity-building activities conducted by FPLM and the MOH:

- Developing appropriate manuals for the newly designed system.
- Developing a national training strategy and appropriate curricula to train personnel on the new system.
- Selecting and training appropriate personnel as logistics trainers.
- Manual-based training of all appropriate personnel in the new system.
- Training USAID officer in forecasting methodology.

2.5 Use of Data to Inform Implementation

The implementation of the JCLS benefited greatly from the use of routine and research data at all major stages of implementation. Prior to the beginning of the intervention, a national situation analysis was conducted in 1997, the results of which served to inform the strategic design of the system, as stated above. Following this, a central-level computerized inventory control system and a manual logistics management information system (LMIS) were developed for the purpose of providing routine data used to monitor stock situations throughout the country. The routine data generated by these systems were used by the Logistics Unit of the MCH directorate to provide feedback to directorates and health centers on their stock situations and to estimate future requirements of commodities, both at directorate and national levels. Data were gleaned periodically from the systems to provide evidence to policymakers and managers of the benefits of the logistics system. Finally, research data generated from the 1999 assessment were presented to policymakers at both central and directorate levels to demonstrate the achievements of the JCLS and suggest recommendations for its future continuity.

Three computer software packages are used to calculate and store logistics-related data at the central level. First, the Jordan Contraceptive Logistics Central Information System (JCLCIS) is the computerized logistics management information system that drives the JCLS, collecting data on stock levels, order quantities, couple-years of protection (CYP) and new and continuing users of family planning. The JCLCIS is fed by the LMIS, a series of order forms, and reports completed manually at lower levels of the system. Ordinarily a LMIS would not include service statistics such as new and continuing family planning users and CYP; however, including this information helped to gain the political support for the LMIS (see 2.6). Second, the PipeLine projection software developed by FPLM is used at the central level to calculate contraceptive procurement tables (CPT) used to forecast commodity needs for the entire country. Third, the Central Warehouse Inventory Control System (CWICS), which was under development and being pilot-tested during the 1999 assessment, has now been implemented in the MCH warehouse and is being used to manage contraceptive inventories at the central level (see section 7.0 for more details).

Specific activities regarding the collection and use of data included—

- Designing and conducting a national situation analysis of the MOH contraceptive logistics system and sharing these results with the MOH, other government officials, JAFPP, and NGOs.
- Using the data from the logistics situation analysis in the National Contraceptive Logistics System Design Workshop.
- Developing a central-level computerized inventory system.
- Developing a central-level computerized information system.
- Continuous monitoring and management of stock situation at central and directorate levels.
- Developing a monitoring and feedback system for contraceptive supply managers and health workers.

2.6 Attention to Policy

" This was the only project I have seen that talked with the directors [of the health directorates] and asked them what they thought! "

— Director, Karak Health Directorate, 1999

Attention to policy and policymakers was extremely crucial to the success of the FPLM strategy in Jordan. Both the SLO and the FPLM RA undertook many activities specifically aimed at convincing authorities of the power of logistics to improve the quality of services. The SLO, in particular, maintained good relations with all the health directors of the directorates, periodically providing them and their subordinates with feedback and suggestions for improvement. Many of the 1999 Phase II assessment interview respondents stated that if it were not for the SLO's feedback and consistent concern, they would not have been as interested in the logistics system and would not have taken steps to ensure its success. Now, because of their knowledge of logistics and its results, these central- and directorate-level health directors want to see the JCLS succeed and continue. As long as attention is paid to these authorities, the system will not fail due to lack of oversight or management.

Specific attention to policymakers was paid via the following activities:

- Involvement of policymakers in National Logistics System Design Workshop.
- Presentation to central- and directorate-level policymakers on results of the 1997 situation analysis and progress achieved by the JCLS to date.
- Inclusion of service statistics in the JCLCIS and the LMIS to obtain political approval.
- Approval of the JCLS by the Minister of Health.
- One-on-one discussions with each director of the health directorates and general health directorates.
- Ongoing feedback to directorate-level supervisors on system achievements, failures, and threats to success.
- One-day policy-level presentation targeting directors and general directors on the current status of the JCLS based on monitoring visits and JCLCIS data (May 1999).

3.0 Assessment Scope and Study Methods

From August to November 1999, the FPLM project conducted a two-phase national study in Jordan to assess the performance of the JCLS and to document the outcome and effectiveness of technical assistance (TA) provided by FPLM from January 1997 to December 1999 to the Royal Hashemite Kingdom, RMS, NGOs, and the JAFPP.

The 1999 assessment described in this document was conducted in two phases, each with its own distinct goal. The goal of Phase I, implemented from August to September, was to determine changes in system performance by conducting a quantitative endline survey using a set of questionnaires modeled on those used to collect baseline data in 1997. Phase I data includes information on contraceptive availability, system performance, and capacity building. The goal of Phase II, implemented from October to November, was to assess qualitative outcomes and distill lessons learned through qualitative interviews with key stakeholders of the system. Phase II data includes information on stakeholder perception of logistics investments, contraceptive security, FPLM TA strategies and performance, system sustainability, and accomplishments.

3.1 Objectives

The objectives of the 1997 situation analysis, also referred to as the baseline assessment, were to—

- Assess the overall strengths and weaknesses of existing procedures.
- Use the findings to design a new system.
- Use the results as a baseline for future evaluation.

The objectives of the 1999 evaluation assessment were to—

- Document the impact of the JCLS.
- Assess the current status of contraceptive supply and logistics processes.
- Distill lessons learned from three years of JCLS implementation experience.
- Provide recommendations for long-term sustainability of the system.

3.2 Sample

Both the 1997 and 1999 (Phase I) assessments visited the same directorates and the same health centers. The criteria for the original selection of the health centers were the following:

- At least 25 percent of the health centers in each directorate should be chosen.
- At least one remote health center in each directorate should be chosen.

The 1997 baseline assessment included—

- 100 percent of MOH health directorates (19)
- 27 percent of MOH health centers (81/295)

The 1999 evaluation assessment included—

- Phase I (same facilities as those visited during the 1997 assessment)
- 100 percent of MOH health directorates (19)[1]
- 26 percent of all MOH health centers (81/317)[2]

Phase II

A small convenience sample was used for Phase II, which employed a qualitative methodology (see 3.6). One directorate was visited in each of the three regions—North, South, and Central. Irbid directorate was chosen for the North, Karak in the South, and Amman in the Central. In each directorate, at least two health centers were chosen, based on geographic access, given the short time allotted for Phase II.

The respondents for Phase II interviews included[3] —

- Senior Logistics Officer, MCH Directorate, MOH
- Central warehouse manager, MOH
- Three directors of MOH health directorates
- Health facility personnel at six health centers
- Three USAID officers
- Three central-level MOH managers
- JAFPP and RMS management personnel.

3.3 Study Teams

For the 1999 assessment, both Phase I and II data collection activities were conducted by a combined team of JSI/FPLM and MOH/Jordan representatives. The Phase I team, collecting quantitative data, included Walter Proper, Resident Advisor, JSI/FPLM; Abeer Mowaswas, Senior Logistics Officer, MOH; and Muna Al-Kharim, Logistics Officer, MOH. The Phase II team, collecting qualitative data and conducting interviews, included Sandhya Rao, Evaluation Officer, JSI/FPLM/W; Naomi Blumberg, USAID/CLM; Abeer Mowaswas, MOH; and Muna Al-Kharim, MOH.

Supporting both teams was Nasser Jarrar, Administrative Assistant, JSI/FPLM in Jordan.

3.4 Areas of Analysis

Phase I data were mostly quantitative, focusing on the following areas:

- Training

1 Although there are 20 administrative directorates, for the purposes of the JCLS, two directorates were merged, for a total of 19.

2 The number of MOH health centers increased from 295 to 317 between 1997 and 1999.

3 See appendix G for a list of principal contacts from the central level of each institution.

- Supply status
- Inventory control procedures
- Accuracy of reported data
- Storage conditions.

Phase II data were mostly qualitative, focusing on the following areas:

- Training
- LMIS forms and reports
- Use of data in decision making
- Technical assistance strategy
- System performance and achievements
- Sustainability of the JCLS
- Contraceptive availability
- Potential integration of systems
- Lessons learned.

3.5 Project Targets and Assessment Indicators

3.5.1 Project Targets

Specific outcomes resulting from logistics interventions initiated by FPLM and managed by the MOH between 1997 and 1999 were measured by the following targets set in 1997:

- At least 70 percent of all health centers and directorates are stocked within established maximum-minimum (max-min) levels.
- At least 75 percent of all health centers and directorates have not experienced total stockouts of any method within the previous six-month period.
- At least 80 percent of health centers and directorates issue stock according to FEFO procedures.
- At least 95 percent of health centers and directorates store contraceptives away from chemicals and pesticides.
- Improvement of accuracy of dispensed to user data collected at health centers from 1997 level of 64.6 percent to at least 80 percent.
- Detailed manuals for both the directorate and health center levels are developed and distributed to all concerned personnel.
- A cadre of trainers exists within the MOH to conduct logistics training.

- The MCH Directorate has a permanent SLO position responsible for management of the contraceptive logistics system.
- Contraceptive forecasts will be completed by the MOH with minimal assistance and presented to USAID and UNFPA.

3.5.2 1997 and 1999 Assessment Indicators

In addition to providing information on the above targets, this paper reports on the indicators developed for monitoring and assessment purposes:

- Directorates stocked within established max-min levels.
- Health centers stocked within established max-min levels.
- Directorates stocked out of any of the four main contraceptives[4] at the time of assessment visit.
- Health centers stocked out of any of the four main contraceptives at the time of assessment visit.
- Directorates stocked out of any of the four main contraceptives in the last six months.
- Health centers stocked out of any of the four main contraceptives in the last six months.
- Directorates storing contraceptives away from chemicals and pesticides.
- Health centers storing contraceptives away from chemicals and pesticides.
- Directorates correctly organizing contraceptives.
- Health centers correctly organizing contraceptives.
- Directorates storing contraceptives according to FEFO procedures.
- Health centers storing contraceptives according to FEFO procedures.
- Directorates where all products' inventories match records.
- Health centers where all products' inventories match records.
- Health centers where monthly report matched dispensed to user report figures recorded on the daily activity register.
- Retention rate of personnel trained in logistics.
- Health facility personnel trained in logistics.
- Facilities where logistics manual is available.

In addition to the above indicators, baseline, mid-term, and final scores were collected for the Composite Indicator for Contraceptive Logistics Management[5]. The indicator scores and qualitative comments for all three periods are in appendix E.

4 The four main contraceptive products are IUDs, Microgynon, condoms, and Femulen.

5 The Composite Indicator used by the FPLM project has been adapted from the *Handbook of Family Planning Indicators* (Bertrand et. al. 1994).

3.6 Data Collection Instruments

The assessment team conducted interviews and questionnaires with MOH management and service delivery personnel, JAFPP and RMS managers and health workers, USAID officials, and FPLM technical advisors. Given that the most important stakeholders of the contraceptive logistics system are the end users of the supply chain, the assessment instruments included questions on client perception where appropriate. Although direct client interviews were not conducted for this assessment, a few proxy measures of client satisfaction trends in contraceptive use have been included under section 1.2.

Phase I instruments from 1999 were designed to replicate 1997 baseline instruments for both the directorate and health center levels. However, although both sets of instruments asked the same questions and collected data on the same indicators, there was one minor difference: the 1997 instruments contained a few open-ended questions that were subsequently closed in the instruments used for Phase I of the 1999 study. The use of open-ended questions in the original instruments was necessary for the dual purpose of simultaneously conducting a logistics system assessment and establishing baseline measurements. The following is a list of instruments used in the 1999 study. All instruments can be found in appendix D.

Phase I Instruments:

- Directorate questionnaires
- Health center questionnaires
- JCLS Logistics Management Information System Data Spreadsheets

Phase II Instruments:

- Semi-structured questionnaires for the following—
  (a) Central-level officers
  (b) Directorate managers
  (c) Directorate midwife supervisors
  (d) Health center personnel
- USAID Key Informant Interview Guide

4.0 Findings

4.1 System Performance and Accomplishments

In three years, through the series of aforementioned strategic activities and attention to policy, the JCLS has made great strides toward improving the availability and quality of contraceptives in Jordan, as data provided in this section demonstrate. The JCLS has revolutionized the family planning supply chain and virtually eliminated wastage and stockouts of contraceptives throughout the Kingdom.

Combined with local commitment to sustain efforts, FPLM technical assistance and training have improved the capacity of health workers to manage the system and has increased Jordan's ability to collect and use timely and accurate information. The 1999 assessment results found that staff at all levels feel the new system actually eases their workload by making logistics more systematic and less random. In addition, the involvement of key stakeholders, including health workers, from the outset of the perfor-mance improvement process has resulted in a high level of local ownership of the system, thereby increasing the probability of long-term sustainability.

The most comprehensive and concrete evidence of the accomplishments of MOH implementation and FPLM technical assistance has been achieving and, in many cases, surpassing, almost all project performance targets set in 1997 (see 3.5). The increase in accuracy of reporting combined with an improvement in storage conditions and appropriate stock levels, has led to a decrease in losses due to expirations and damage and an increase in the availability of contraceptives throughout the Kingdom. This section discusses in detail the findings of Phases I and II of the 1999 assessment, and provides comparative data from 1997 wherever possible.

4.1.1 Overview of the System

The JCLS was designed to manage the country's contraceptive supply chain. The system monitors all logistics activities required for getting contraceptives from the supplier to the consumer—the family planning client. The JCLS is driven by the in-country contraceptive supply chain, described below, and by several management information systems that provide essential logistics data, including the JCLCIS and the CWICS. The latter was implemented at the end of 1999 in the MCH Directorate and at the JAFPP in July 2000 (see section 7.0). These information systems are explained in more detail in section 4.2.3.

Service Delivery Infrastructure

The MOH administrative structure consists of four levels: health center/hospital, health directorate, general health directorate/governorate, and the MCH directorate, otherwise known as the central level. At the central level are the MCH Directorate offices and the MCH central warehouse, which is in a separate location. There are 12 governorates in the country and 12 corresponding general health directorates. Some of the general health directorates consist of more than one health directorate, for a total of 20 health directorates overall. At the time of the assessment visit, 317 MOH health centers provided family planning services (in 1997, there were 295). In addition, 12 hospitals housed model postpartum centers that were set up under the USAID Contraceptive Post-Partum Project (CPP). The MOH was the institution that received primary attention from the FPLM project in Jordan.

In-Country Contraceptive Supply Chain

Within the MOH system, midwives at health centers and midwife supervisors at directorates, in coordination with the Logistics Unit at the MCH Directorate, manage and distribute contraceptives. The MCH central warehouse distributes contraceptives to the directorates, which, in turn, issue them to the health centers, hospitals, and a few NGO clinics to be dispensed to clients. In addition, the warehouse also distributes contraceptives to the RMS and JAFPP national stores, which, in turn, issue them to their respective clinics and hospitals to be dispensed to clients. Although physically housed in and managed by the MCH directorate of the MOH, the JCLS information system tracks logistics data for all SDPs, including those pertaining to the RMS and JAFPP. As contraceptives are issued to storage facilities or given to clients, information is collected and sent up to the next level of the JCLS. This information is used to make decisions regarding, among other things, the quantity of contraceptives to order or issue. Appendix B outlines the personnel who manage the JCLS, the activities for which they are responsible, and the schedule of routine actions at each level of the system.

The Role of the Logistics Unit, MCH Directorate

The Logistics Unit, created in 1997, is composed of the SLO, LO, and MCH central warehouse manager. Its role is to—

- Input all health center and directorate data into the JCLCIS.
- Determine the contraceptive needs of directorates.
- Provide feedback on stock status and report accuracy to directorates.
- Conduct monitoring and supervision site visits.
- Monitor nationwide stock levels.
- Coordinate national contraceptive supply with donors.
- Forecast contraceptive commodity needs for the JCLS.

4.1.2 Contraceptive Availability

Contraceptive availability at both directorates and health centers has improved over the last three years. As figures 4.1 and 4.2 demonstrate, both stockouts at the time of visit and stockouts in the last six months have declined to as low as 4 percent for health centers and 0 percent for directorates at the time of visit. For the purposes of this assessment, a facility is said to have experienced a contraceptive stockout when at least one of the four main contraceptive products was unavailable: IUDs, Microgynon, condoms, and Femulen.

Figure 4.1.
Stockouts of Contraceptives at the Time of Assessment Visit, 1997–1999

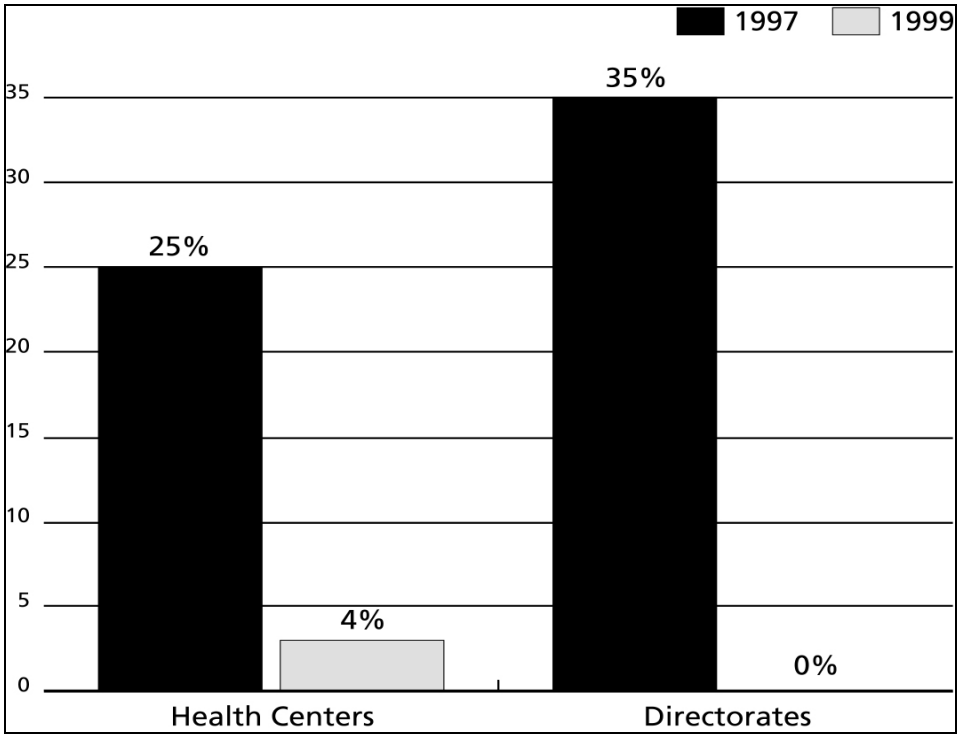
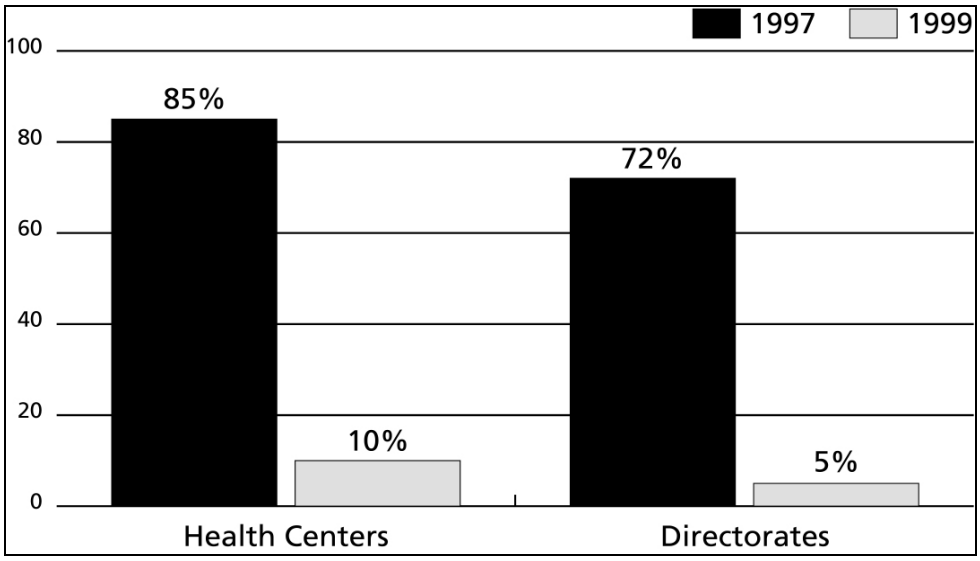


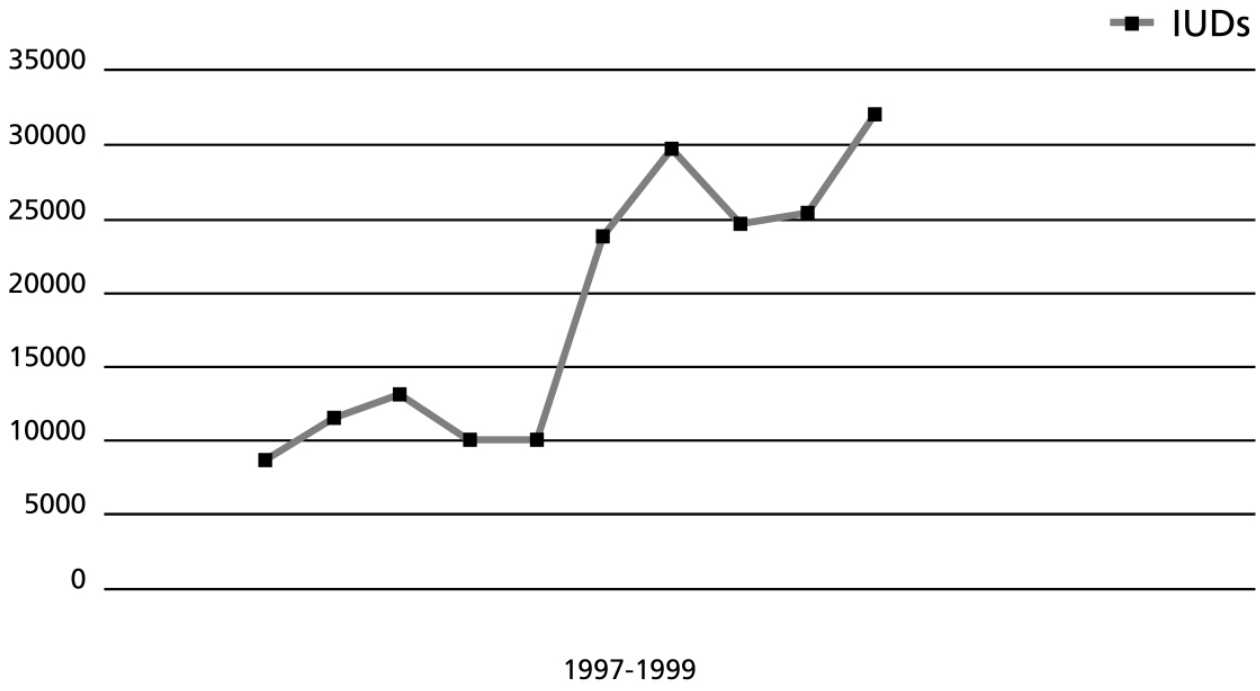
Figure 4.2.
Stockouts of Contraceptives in the Last Six Months, 1997–1999



The implication of increased availability of contraceptives is straightforward: if a client visits a facility for contraceptives and receives what she requests, she is more likely to continue using family planning. Conversely, anecdotal evidence from family planning programs all over the world shows that a stocked-out facility is a missed opportunity that erodes the confidence of family planning clients—and often means that the client will not return a second time.

Data generated by the JCLS show that there has been a dramatic increase in CYP for most methods over the last three years. Although the 1999 assessment does not attempt to draw statistical relationships between the increase in CYPs and the decrease in stockouts, it is important to note that the two trends occurred during the same time period. Figure 4.3 shows the increase in CYPs for IUDs.

Figure 4.3.
Couple-Years of Protection



4.1.3 Inventory Management

In early 1997, as mentioned in section 1.4, there were overstocks of IUDs at all levels of the system. At that time, 41 percent of directorates and 15 percent of health centers had more than one year's supply of IUDs. At the MCH warehouse, approximately 7,000 IUDs had to be destroyed due to expiration.

Also in 1997, 16 percent of directorates had more than one year's supply of condoms, and 21 percent had more than six months' supply—significantly more than their two-month need. In 1999, no facilities were overstocked with IUDs; no facilities or directorates had more than one year's supply of product; and only a few sites had slightly more than their maximum levels of stock. Some sites had slightly more than their maximum levels of stock due to the changeover in September 1999 from the UNFPA-provided Micro-gynon to the USAID-provided Lo-Femenal. This switch in oral contraceptives resulted in higher levels of stock for the latter as clients changed their consumption from the former.

The JCLS max/min levels of stock are the following: 2/1 for health centers, hospitals and NGOs; 6/3 for health directorates; and 12/6 for the MCH Directorate (central warehouse). The emergency order point for is one month of stock for directorates and 0.5 month of stock for health centers. Facilities and directorates must keep their stock within these established levels to avoid stockouts and maintain control of their inventories. As an example, at the time of the 1999 assessment, 79 percent of directorates and 86 percent of health centers stocked condoms within established emergency order points and maximum levels.

4.1.4 Storage Conditions

In 1997, storage conditions at both directorates and health facilities were found to be quite good, except for one critical problem: one-quarter of health centers were storing contraceptives near pesticides or other chemicals. Furthermore, some facilities were not organizing their contraceptives correctly by showing labels with expiry dates and keeping products separated. TA focused on reducing these poor storage practices. The results, shown in figures 4.4 and 4.5, have been quite positive.

Figure 4.4.
Facilities Storing Contraceptives with Chemicals

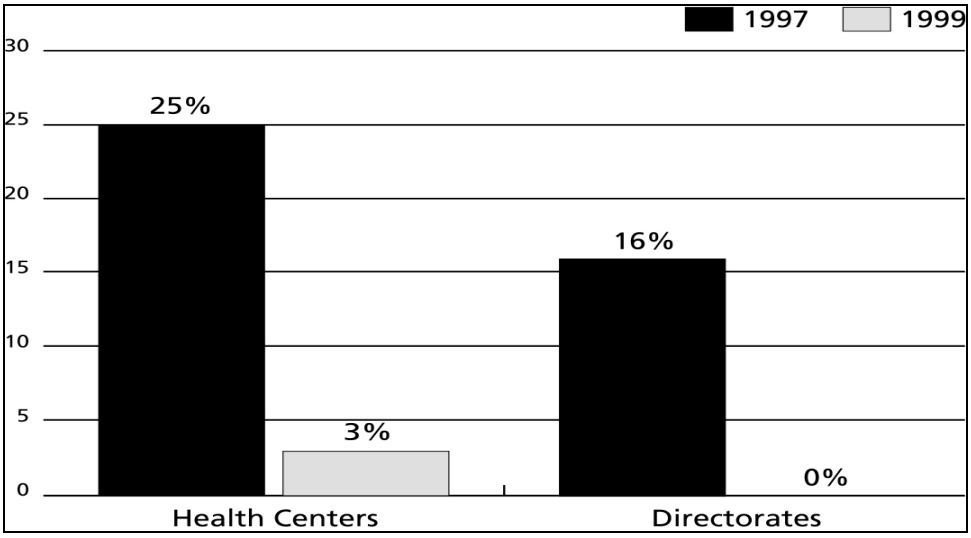
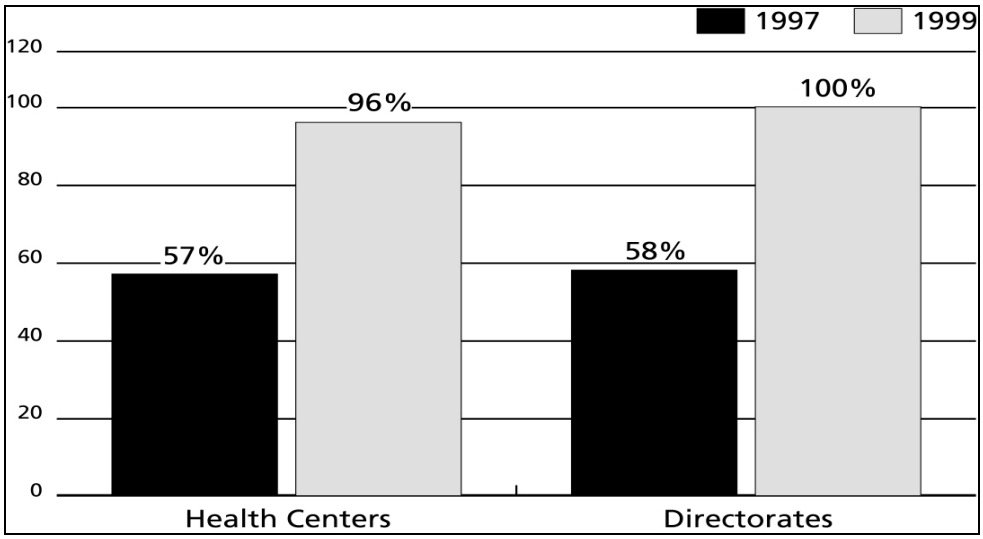


Figure 4.5.
Facilities Correctly Organizing Contraceptives



Additionally, the 1997 baseline assessment showed the need for improved practice of FEFO storage procedures. At the time of the assessment, 89.5 percent of directorates and 76.5 percent of health centers followed FEFO. A comparison to 1997 data was not possible, however, these 1999 figures, although meeting project targets, demonstrate the need for continued improvement of storage procedures to avoid the unnecessary expiration of contraceptives.

4.1.5 Accuracy of Reported Data

Accuracy of dispensed to user data improved between 1997 and 1999. Dispensed to user data is defined by the number of contraceptives issued directly to clients in a given time period. For this analysis, the study team compared the *Daily Activity Register*, in which dispensed to user data are recorded on a daily basis, to what was reported on the last month's *Health Center Monthly Contraceptive Order & Report Form*. A health center was deemed as having accurate records if its dispensed to user data were between +1 or -1 of the absolute amount reported on the monthly order form *for all products*. Overall, health centers were found to be providing fairly accurate data, as shown in figure 4.6. In 1997, 65 percent of health centers provided accurate dispensed to user data on the *Health Center Monthly Contraceptive Order & Report Form*. By 1999, 90 percent of health centers were providing accurate data.

Accuracy of record keeping also improved, although the overall figures remain lower than desired. Results for 1997 show that 30 percent of health centers and 25 percent of directorates kept accurate records of their contraceptive inventories. This number more than doubled, as shown in figure 4.7, over the next three years. In addition, it was found that in 1999, 94 percent of health centers and 100 percent of directorates kept their inventory books up-to-date, eliminating the possibility that the inaccuracy of physical inventory record keeping was caused by a delay in updating of inventory books.

Figure 4.6.
Accuracy of Dispensed to User Data

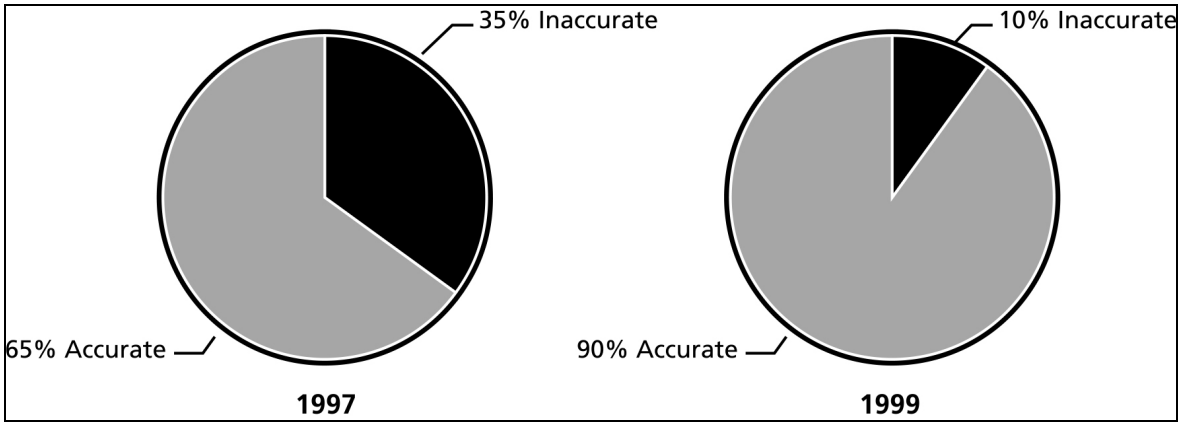
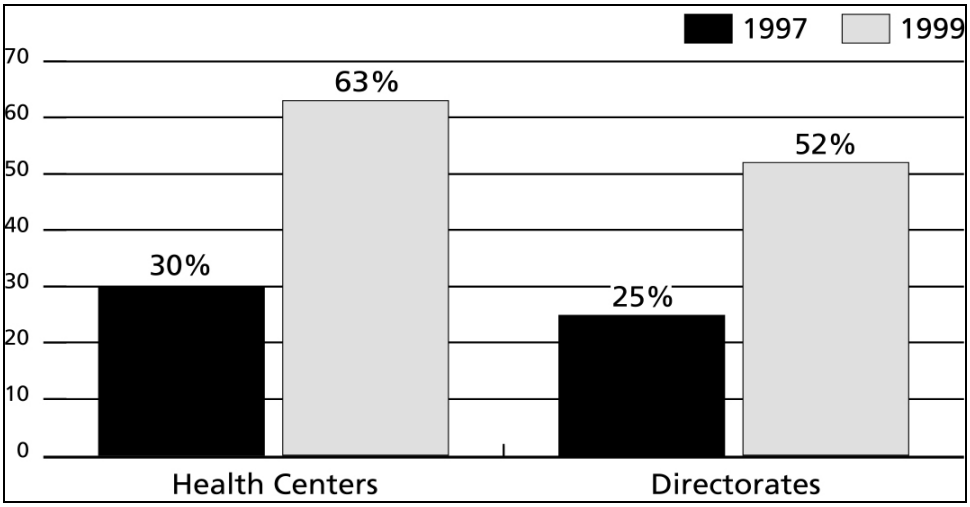


Figure 4.7.
Facilities Where All Physical Inventories Match Records



4.1.6 Trained Personnel

From 1997 to 1999, more than 550 staff had been trained in logistics, including midwife supervisors, nurses, midwives, MCH doctor supervisors, doctors, warehouse managers, and trainers. In 1999, among MOH staff, of the 399 service providers trained at the health center level, 99 percent were still in their posts. Of the 45 supervisors trained, nearly 78 percent were still working in their positions. Coverage of the training was widespread. As of December 1999, only 21 midwives and nurses at health centers and 12 midwife supervisors at directorates remained untrained, either because they were new recruits or because they had missed the original training sessions provided.

The training program required that participants pass a competency exam showing their ability to use the manuals and correctly complete the reporting and ordering forms. Anyone not successfully passing the

exam received follow-up assistance by a supervisor and/or central-level staff from the Logistics Unit of the MCH Directorate during monitoring and supervision visits. After receiving follow-up assistance, trainees were given a second chance at passing the competency exam. Almost 100 percent of trainees passed the first time, and the remaining few percent passed the exam after follow-up assistance. See section 5.0 for further information on monitoring and supervision.

Phase II of the 1999 assessment asked a small number of health center and directorate staff about their memory and perceptions of the logistics training. The vast majority of respondents had been trained. Of those trained, all the respondents could remember at least four specific topics of the training. Moreover, their impression of the training was generally quite positive. Respondents stated that the training was applicable to their jobs, and they were using all the skills they learned during the training. Most felt that the content and style of the training was good; one respondent claimed that she found the training exercises to be excellent and would be willing to participate in more training if it were offered. Although a few trainees were troubled by the vast amount of information that was covered in a short amount of time, the majority stated that a longer training duration would have been too difficult for them, given family and work responsibilities.

The midwives seem to take a shared pride in the system, wanting it to succeed even in their absence. The majority of Phase II respondents stated that they had informally trained secondary personnel to perform their logistics responsibilities in the event of their absence. The rotation of personnel at this level was not seen as a problem, because usually more than one person was able to perform logistics functions at most health facilities.

4.1.7 Contraceptive Forecasting

From 1997 to 1999, the FPLM resident advisor and USAID/O/PFH generally led contraceptive forecasting. During this time, the SLO provided assistance and information for the CPTs and PipeLine software projections. Forecasts did not include warehousing and transport costs. At the time of the assessment, the MOH was not able to complete forecasts with only minimal assistance and, therefore, was unable to meet the target for this component of the JCLS (see 3.5 for project targets).

In July 2000, an FPLM consultant visited the MOH to provide technical assistance on the use of the PipeLine software, including a review of the data and use of reports, especially those required for projections of contraceptive needs. His findings on the current status of contraceptive forecasting, including the monitoring of stock status and the projection of needs using PipeLine software, can be found in the epilogue of this document, section 7.0.

4.2 Institutionalization of the Jordan Contraceptive Logistics System

The JCLS is virtually institutionalized within the MOH system. The Logistics Unit that manages the system is housed in the MCH Directorate, with the SLO position firmly placed within the unit. There is political commitment to the system; policymakers and authorities can attest to its success and the need for its continuation. There is local ownership of the system: it was designed by MOH staff and is currently managed and implemented by them as well. Logistics data are being reported in a timely fashion by almost all health centers and directorates, and the data are used to manage contraceptive supply at all levels. A cadre of logistics trainers within the MOH can be called on to provide new training workshops or refresher training to JCLS personnel. Finally, there are procedures manuals for every level of the system, which ensures the institutionalization and continuation of operational information, thereby minimizing the costs of training due to rotation of personnel.

However, a few aspects of the system still need more support if the JCLS is to become truly institutionalized, survive the inevitable turnover and transfer of personnel, and exist on its own with minimal external technical assistance. The system is particularly vulnerable at the central level, where all of the knowledge, skills, and practical experience of JCLS management are held by just a few people in the Logistics Unit. The 1999 assessment findings, including the factors that have contributed to and hindered the institutionalization of the JCLS, are summarized in the following sections.

4.2.1 Political Commitment of the MOH to Logistics

The JCLS has political support within the MCH and Planning Directorates of the MOH. In addition, it has garnered the support of the directors of the health directorates, who believe in the system and do not want to see investments lost. The JCLS itself was approved by the Minister of Health before its implementation began. Creation of the Logistics Unit within the MCH Directorate gave political weight to the system and elevated the status of the SLO. Policymakers have been given key messages and data as evidence of the benefits of the logistics system, enabling them to articulate their support for the JCLS and the Logistics Unit.

However, providing policymakers with data was not always enough to convince them to support the JCLS. Implementation did not always occur without bureaucratic obstacles. Roadblocks did appear along the way (e.g., in the first year of the project, the new General Secretary of the MOH withdrew approval of half of the cadre of trainers and set the project back about six months). Also, policymakers by nature do not often remain in their posts for very long. There has been a constant need to reorient new politicians and authorities, which has taken a significant amount of time.

Although the SLO position now administratively falls under the Logistics Unit of the MCH Directorate, it did not begin there. It took two and a half years to move the position from the Planning Directorate to the MCH Directorate, where the JCLS is housed. The creation of the Logistics Unit itself took quite some time, with its establishment formalized only in 1999. In addition, the LO position has not yet been recognized and administratively approved as a member of the Logistics Unit.

The JCLS has sufficient political support at the moment to support its institutionalization within the MOH. However, constant attention will need to be paid to policymakers so that this support, along with the efforts of the Logistics Unit and FPLM to sustain it, does not erode over time.

4.2.2 Local Ownership of JCLS

The use of participatory design and implementation strategies greatly contributed to the local ownership of the JCLS (see 2.3). The system was designed by the MOH; it is managed and run by MOH personnel; and the MOH has used its own trainers to build logistics capacity within the institution. There is a high level of commitment and ownership at all levels. Political support, as mentioned above, and the full participation of directors of the directorates, has contributed to the 100 percent timely reporting by health centers and directorates, demonstrating the importance of local commitment to the performance and institutionalization of the JCLS within the MOH.

4.2.3 Use of Logistics Data for Monitoring and Decision Making

The JCLCIS is an Access database program that collects two kinds of data—logistics and service statistics. It is an LMIS that is computerized at the central level and operates manually with paper forms at the directorate and health center levels. The manual and paper system at lower levels feeds data to the JCLCIS computerized database. The forms that are entered into the JCLCIS are the *Directorate Monthly*

Contraceptive Report and the *Health Center Monthly Contraceptive Report and Order Form,* both of which contain information on stock at the beginning of the month, losses and adjustments, quantities issued and received, and stock balance.

The CWICS is a computerized system that was being pilot-tested and modified at the time of the 1999 assessment. It allows the central warehouse manager and the LO to manage the contraceptive inventory to avoid stockouts and expirations at the central level. It is now in use at the MOH and was recently installed at the JAFPP central warehouse (see 7.0). The CWICS will produce the directorate contraceptive report that the JAFPP will send to the MCH Directorate on a monthly basis.

Over the past three years, implementation decisions regarding the JCLS have been driven by routine and research data. The 1997 logistics situation analysis baseline data were used in the design workshop to develop the system; the Logistics Unit uses JCLCIS data to provide feedback to midwives and midwife supervisors on stock status at health centers and directorates; and the final assessment data documented in this report have been used to diagnose the current status of the system.

The JCLCIS provides information and data elements that can be presented in many ways and have a variety of uses. Appendix A provides a few samples of the more than 30 reports that can be generated by the system.

Routine JCLCIS data provided by these reports enables the Logistics Unit to—

- Determine the quantities of contraceptives required at directorates.
- Monitor supply status at health centers and directorates.
- Monitor trends in the types of contraceptives being requested most.
- Forecast future national needs.
- Monitor commodity levels at all levels of the system.
- Evaluate the overall functioning of the system.

Despite the extensive use of logistics data in logistics system decision making, data are not being used optimally by all stakeholders of the system. The 1999 assessment found that managers were not making optimal use of timely and accurate data coming out of the system and were missing opportunities to use the data for programmatic decisions. For example, in addition to logistics-related decisions, program managers can—

- Track trends in contraceptive use.
- Use CYP to calculate method mix.
- Analyze trends of new and continuing family planning users.
- Compare current and past performance of a given health center.
- Compare performance between service delivery sites.
- Determining method mix.
- Allocate scarce human resources based on need.

- Determine outreach and supervision needs.
- Determine true acceptance of new and continued methods.

The use of routine data for programmatic decision making can also provide valuable information on utilization of health centers. Currently, according to USAID, about 50 health centers experience very low patient loads per day. To optimize funds, the MOH could use the data provided by the JCLCIS to determine which, if any, of these centers could be relocated or shut down. Better use of data by program managers will depend on the ability of the Logistics Unit to present concrete examples and scenarios to directors of the health directorates. (Section 6.0 recommends that the MOH emphasize the use of data for programmatic decision-making.)

4.2.4 Cadre of MOH Trainers

The MOH now has a group of trainers who have been given the necessary capacity-building skills required to conduct participatory training of any kind, not just logistics. They have even been asked by non-logistics sectors of the MOH to provide their training skills in other areas of the MOH. The creation of this cadre of trainers is a first step toward the institutionalization of capacity building within the MOH. (Section 6.0 recommends that every effort be made by the MOH to maintain this cadre within the institution.)

4.2.5 Procedures Manuals

"There has definitely been a transfer of skills. The midwives use the books. Training has infiltrated from top to bottom. They are proud of the system."

— USAID/Jordan representative, 1999

The *Jordan Contraceptive Logistics System Directorate and Health Center Procedures Manuals* were developed for use by health center midwives and directorate midwife supervisors in carrying out logistics-related responsibilities. The manuals contain descriptions of these responsibilities and specific instructions for each logistics procedure, many of them in the form of job aids. The *Central Operations Manual* describes and provides instructions for the JCLCIS, forecasting using PipeLine software developed by FPLM, guidelines for monitoring and supervision, and instructions on how to conduct a physical inventory. The directorate and health center manuals, written in English and translated into Arabic, formed the basis of logistics training for personnel at these levels.

During Phase I of the 1999 assessment, 95 percent of directorates and 91 percent of health centers were able to furnish a manual on request. During Phase II, respondents were asked to state whether they used the logistics manual and, if so, what they used it for. Nine out of ten directorate and health center respondents stated that they use the manual on occasion, mainly for form completion, emergency order, and physical inventory procedures. The tenth stated that she had memorized the manual and therefore no longer needed it!

4.3 Long-Term Sustainability of the Jordan Contraceptive Logistics System

The MOH has the potential to sustain the JCLS. In three years, the system has dramatically improved the provision of high-quality contraceptives through revolutionary supply chain management practices. Logistics-related positions and responsibilities are clear, personnel are trained, manuals are available, and a sustainable cadre of trainers exists within the MOH to train new staff. Management, transport, distribution, and reporting all occur without external technical or financial assistance. There is ownership of the system at every level and political commitment from the authorities of all participating institutions.

As stated in section 4.2, the system has been virtually institutionalized within the MOH. However, some issues require consideration if long-term sustainability is to be achieved. Because the MOH and other institutions are committed to the continued provision of high-quality services, they must consider the factors that contribute to the sustainability of the JCLS, which directly contribute to the excellence of these services. For the purposes of this report, long-term sustainability is defined as the ability of a local institution to successfully manage a logistics system and, ultimately, to procure and budget for commodities on its own, without external financial assistance. Given the excellent performance of the JCLS and its remarkable progress toward institutionalization, system stakeholders must now concentrate on its long-term financial sustainability. The following sections present issues for consideration.

4.3.1 Financial Commitment of the MOH to Logistics

Many respondents stated that financing was the main threat to sustaining the JCLS. For the MOH to sustain the system on its own, it not only would have to continue funding the salaries of personnel managing the system, but would also have to newly budget for training, computer and equipment support, telephone lines, monitoring, supervision, and, eventually, contraceptive commodities. Donors have paid for all of these items, other than personnel salaries (see 1.3). With the termination of the FPLM TA, some of these items will have to be financed by the MOH if logistics activities are to continue.

4.3.2 External Assistance Needed to Sustain the JCLS

At the end of FPLM's TA in December 1999, USAID began to consider alternate funding options for items previously covered under FPLM monies. The newly awarded U.S.$40 million bilateral, the Primary Health Care Initiatives (PHCI) project was considered as a funding source for training, computer support, and per diem and transport for monitoring trips and feedback meetings with midwives. Logistics support would contribute to its project objective of "increased availability and quality of reproductive health services." Section 7.0 provides an update.

USAID has been the primary financier of logistics TA and contraceptive commodities in Jordan. At the time of this assessment, USAID officials believed that other donors had not been as responsive to logistics and commodity needs because of inflexible and bureaucratic mechanisms. "If you want something from them, you have to start one year earlier," was the statement of one USAID/Jordan official, who felt that it would be a mistake to rely on other donors to sustain the system. UNFPA has been able to respond to emergency orders, but does not have a full commitment to long-term assistance.

4.3.3 Integration of Drug and Contraceptive Logistics Systems

At the time of this assessment, there was no policy in place, nor were there plans, to integrate the logistics management of public health supplies. However, there was some concern among stakeholder respondents that whenever the MOH begins to pay for contraceptives, they will include them in the drug logistics

system, which is believed to function poorly in comparison with the one for contraceptives. In addition, integration of contraceptives into the existing drug system could decrease the priority status of contraceptives. Furthermore, unlike the JCLS, the drug logistics system does not maintain full supplies and does not manage logistics functions in a manner that improves availability and quality of commodities.

In the opinion of most stakeholders of the JCLS, the two types of commodities should not be integrated into one logistics system until and unless the drug logistics system has improved in the same way as the contraceptive logistics system has improved over the last three years. And although the current drug logistics system could benefit from the kind of system currently enjoyed by contraceptives, most agree that the two systems should *not* be integrated in the near future, until contraceptive prevalence has reached a point where any breaks in availability will not cause great harm to family planning utilization rates. Currently, contraceptives need to be kept in full supply if the JCLS is to meet the growing demand and unmet need for family planning.

4.3.4 Contraceptive Security

"I must point out that the continuation of the JCLS depends greatly on the availability of contraceptives and on the good communication between users and suppliers."

—Director, Amman Health Directorate, 1999

USAID is committed to providing contraceptives to the MOH until 2004. After that, it is unclear whether it will continue to donate or will expect the MOH to begin funding and procuring contraceptives on its own. If USAID does decide to withdraw after 2004, sustainability of the JCLS may be severely compromised if a phase-out plan to develop MOH capacity to budget and procure contraceptives is not put in place soon.

In the opinion of one USAID respondent, the MOH's experience in bidding and procuring drugs can be applied to contraceptives. USAID, from its end, would have to plan a phase-out strategy and assist the MOH in developing financial projections.

As the data in section 4.1.2 demonstrate, contraceptive availability, a critical component of contraceptive security, has improved dramatically over the last three years. Before the advent of the JCLS, there was no trust between central and periphery levels, and communication between different levels of the system was lacking. Now, the JCLS is functioning well and staff have confidence in the system, knowing that they will receive exactly what they order in a timely manner.

4.3.5 Threats to Sustainability

The threats to sustainability are few, but they require attention if the JCLS is to continue without external financial and technical assistance in the long term.

At the time of the 1999 assessment, contraceptive forecasting and the use of PipeLine projection software was not being conducted optimally by the Logistics Unit. As mentioned previously, an FPLM consultant recently visited the Unit to assist in the preparation of CPTs. Section 7.0 provides details on follow-up tasks required in this area.

As mentioned, training, computer support, monitoring, and supervision will need to be funded by the MOH. Monitoring trips, which have been the backbone of supervision and feedback to lower levels,

require per diem and transport. Training, including refresher training, requires human and financial resources. Computer support for both hardware and software functions is vital if the JCLCIS and the CWICS are to be sustained.

Inevitably, there will be turnover and transfer of personnel and policymakers. As long as this is true, policies and procedures need to be put in place to bring new employees up to speed regarding the JCLS and its benefits. Currently, the system is most vulnerable at the central level, where the bulk of managerial knowledge and skills is held by just a few people in the Logistics Unit. To effectively sustain the JCLS, an effort must be made to disseminate information and take preventive measures against the inevitable rotation of personnel.

5.0 Lessons Learned

This paper was written not only to report on accomplishments, but also to distill lessons learned that may be shared with others who may profit from wisdom gained through risks undertaken and failures endured. While the benefits of the JCLS and FPLM technical assistance far outweigh financial and opportunity costs, it is necessary to highlight some of the obvious challenges faced by stakeholders to avoid unnecessary repetition of unsuccessful strategies. The following are the principal lessons learned by stakeholders from their work with the JCLS between 1997 and 2000.

- **Hire a resident advisor to improve continuity of implementation**. A resident advisor, working full-time in-country, improves the continuity of implementation and ensures a relatively seamless transition from external technical assistance to local management of logistics processes and systems. In many countries, periodic, short-term TA does not build sustained local involvement efficiently, with local enthusiasm peaking and fading with the visits and departures of external consultants. When resources are available, hiring an RA maintains continuity and builds sustainability of logistics interventions. Furthermore, the existence of an appropriate resident advisor in-country increases the quality, flexibility, and responsiveness of technical assistance.

"FPLM provided a resident advisor who was both culturally sensitive and technically excellent. Technical assistance was always provided on time, with no delays; and back-up support and tools from FPLM's home office were always provided in an organized manner."

—USAID official, 1999

- **Ensure efficient skills transfer to the central level of local institutions**. Jordan's experience shows that the simultaneous appointments of an RA and an MOH senior logistics officer were instrumental in advancing a rapid and efficient skills transfer between the technical CA and the Ministry's Logistics Unit. In addition, the presence of a logistics manager within the MOH created a sense of ownership and fostered the monitoring and supervision of system implementation.

"Abeer [Mowaswas, the SLO,] played a major role in the success of this activity. She was dedicated and willing to work, travel, and assist with training. She was instrumental in overcoming the bureaucracy of the MOH (e.g., getting the training strategy approved). Having a committed, persistent logistics officer within the MOH has definitely contributed to its institutionalization."

—USAID official, O/PFH, 1999

- **Involve key stakeholders at major stages.** Local participation by all levels of MOH personnel in needs assessment and system design increases local ownership and sustainability of the system by accounting for local requirements, limitations, and parameters.

- **Keep systems development in step with the skills development of local managers.** Development of the JCLS kept pace with those responsible for managing it, with capacity built in stages, beginning with a cadre of trainers within the MOH and progressing toward ongoing training of directorate and health facility level personnel. The JCLS information system, in particular, was left partially unautomated to facilitate human interaction with the system, stimulate problem

solving, and avoid overdependence on automated technologies. An interesting by-product of this interaction was that it gave the Logistics Unit prestige and authority because they entered and managed the data manually, thereby enabling the monitoring and supervision of directorates and health centers.

- **Use routine and research data to inform implementation.** When disseminated and used in a timely fashion, data provide evidence of system changes and help to build consensus among stakeholders regarding decision making. The Jordan experience demonstrates the value of collecting and disseminating data for the dual purposes of driving the contraceptive logistics system and supporting necessary policy and program changes. From needs assessment, baseline data collection, ongoing monitoring, and, finally, evaluation, the JCLS benefited tremendously from routine data and research results at all stages of system implementation. In sum, evidence matters.

> *"It was the data that legitimized to the government the need for a logistics system. The MOH directors were surprised to see that FPLM had so much data to back their recommendations. Data has also played a big role in sustaining the system. Before the JCLS, I had to make twelve different phone calls to get the information I needed. Now, access to data is so much easier. I just have to call the Logistics Unit and they can send me a report right away."*
>
> —USAID official, 1999

- **Monitor, supervise, and provide feedback.** The act of monitoring the supply chain, with a combination of supervisory site visits and regular feedback to lower levels, ensures continuous quality improvement of a logistics system. In Jordan, personnel interviewed believed that the mere act of supervision demonstrated a commitment to logistics and elevated not only the effectiveness but also the status of logistics activities.

  The Logistics Unit has conducted annual monitoring trips to 25 percent of the health centers in each directorate over the last two years. During these trips, the SLO provides refresher and follow-up on-the-job training and supervision while the LO reviews data entry error reports with midwives and midwife supervisors. There is an official monitoring instrument (supervisory checklist) in the central and directorate level manuals that is used during the trips. The visits last approximately two days for each directorate and there is a follow-up meeting with all health center midwives. These feedback meetings and monitoring trips were said to have motivated both midwives and their supervisors to do a good job managing the logistics system and take pride in their work. Regular monitoring and supervision has increased the importance and visibility of the logistics system throughout the Kingdom.

- **Build training capacity within the local institution.** Jordan's experience demonstrates the cost-effectiveness and increased sustainability that result from investing in the development of a local cadre of logistics trainers within an institution. In Jordan, the MOH now has a group of trainers who have been given the necessary capacity-building skills required to conduct participatory training of any kind, not just logistics. They have been called on by non-logistics sectors of the MOH to provide their training skills in other areas of the MOH—a true testament to local capacity building.

- **Maintain vertical logistics systems where appropriate and feasible.** Although most respondents agreed that the drug logistics system in Jordan could benefit from the kind of system currently used for contraceptives, almost all agree that the two systems should not be integrated. Integrating drugs

into the contraceptive logistics system would have haphazard results, since the system has been developed to deal only with commodities that are kept in full supply. Furthermore, the integration of drugs into the contraceptive logistics systems may decrease the priority status of contraceptives, making Jordan vulnerable to contraceptive insecurity.

6.0 Recommendations

During the past three years, the Jordan MOH has demonstrated its exceptional ability to transform technical assistance into effective and sustainable local action and commitment. With support from political leaders, government managers, and health workers, the JCLS has enormous potential for growth and viability.

The following are principal recommendations for the future made to the central level of the MOH by the FPLM/Jordan project before its termination at the end of 1999:

1. The Logistics Unit should be maintained in the MCH Directorate.

2. The MCH Directorate should continue to support annual monitoring trips to sample facilities in each directorate.

3. Annual feedback meetings of midwives should be convened in each directorate.

4. The MCH and other central-level directorates should use logistics data to make informed program decisions (e.g., determining method mix, allocating scarce human resources based on need, determining outreach and supervision needs, determining true acceptance of new and continued methods).

Recommendations made by FPLM/Jordan to the directorate level of the MOH at the end of 1999 were the following:

5. The directorates should use JCLS feedback reports to monitor programs and make informed decisions (e.g., tracking trends in contraceptive use, using CYP to calculate method mix, analyzing trends of new and continuing family planning users, comparing current and past performance of a given health center, comparing performance between service delivery points).

6. The directors of the directorates should continue to manage, supervise, and support midwives and MCH doctor supervisors in their logistics activities.

Additional recommendations, which resulted from this assessment, include the following:

7. TA should continue to be provided to the SLO in the preparation of CPTs and PipeLine software projections.

8. USAID/Jordan should jointly develop plans with the MOH for the continuation or phase-out of contraceptive donations after 2004. Plans should be communicated to the donor and cooperating agency (CA) communities and allow for sufficient lead time in the event of phase-out. By proactively developing these plans, USAID/Jordan will be better able to protect the huge investments and achievements of the system to date. If USAID does plan to phase out contraceptive donations, a plan should be put in place well in advance to build the capacity of the MOH to procure and budget for contraceptives.

9. Linkages should be fostered among the USAID, MCH directorate, and the USAID-funded Primary Health Care Initiatives (PHCI) project to explore technical assistance and/or funding opportunities that strengthen supervision, monitoring, and training for logistics.

10. The MOH should make every effort possible to maintain a cadre of logistics trainers within the MOH, providing them with periodic refresher training and information on changes made to the system.

11. Given the system's vulnerability to turnover at the central level, the MOH should increase the depth and breadth of logistics knowledge and skills at this level to prevent losses due to rotation of personnel within the MCH Directorate. Although the JCLS is virtually institutionalized, the responsibility of the entire system rests with just two individuals at the central level. Its success and sustainability will depend on its ability to remain an autonomous entity, independent of the contributions of specific individuals.

12. Follow-up actions recommended in the epilogue should be considered by the relevant stakeholders of the JCLS (see 7.0).

7.0 Epilogue

From July 31 to August 10, 2000, a logistics advisor from FPLM/Washington conducted a consultancy trip to Jordan to provide TA to the Logistics Unit of the MCH directorate, MOH/Jordan. His main scope of work was to provide assistance on the use of PipeLine software, review data and use of reports with an emphasis on contraceptive projections, install the CWICS software at the JAFPP central warehouse, and review procedures and use of the JCLCIS. This section has been included in this report due to the delay in its publication. It also serves as follow-up to the findings from the 1999 assessment outlined in previous sections.

The following is a series of excerpts from the consultant's technical assistance record, culminating in his recommendations for required follow-up activities:

Data Collection from SDPs and Directorates

The consultant reviewed data entry into the JCLCIS. He randomly selected a number of facilities from the SDPs and directorates since the beginning of the 2000 calendar year (this coincides with the MOH no longer having a JSI resident advisor) to assess the regularity of data entry into the system and the accuracy of the data *vis-à-vis* the reports received. For each facility selected for a given month, the LO could easily locate the LMIS form. Not a single data entry error was found. The LO stated that on average only one or two facilities are late reporters each month; these are typically RMS facilities, which have had a history of late and nonreporting. The LO contacts the midwife supervisor for the directorate if a report is late or if there are issues with the data on forms. The consultant recommended that visits be conducted to military facilities to discuss non-reporting issues and to conduct a physical inventory and inventory book review. In April 2000, one of the military hospitals reported a beginning balance of 255 condoms, yet the ending balance for the preceding period was 43. These issues seem to recur with the military facilities. The nine RMS facilities represent approximately 2 percent of total consumption in the MOH system. Three of these facilities have been receiving products only since June 2000.

PipeLine Software

The LO creates a monthly Aggregate Stock Movement (by level) report from the JCLCIS and provides this report to the SLO. This report breaks down by level (central, directorate, health center) the opening balance, receipts, issues (at the Health Center level, this is dispensed to user), adjustments, and closing balance for each product at each of the three levels. The SLO uses this report to update the PipeLine software monthly (consumption, adjustments, and physical inventory). Although the entries in PipeLine were two months behind when the consultant was in Jordan (May 2000 and June 2000 had not yet been entered into PipeLine), the SLO has been entering the data into the system, thus providing fairly current data for analysis.

The consultant noticed that there were some significantly high adjustments in the Stock Status report in PipeLine. On investigation, the consultant discovered that receipts scheduled to be received in a given month were actually received in the previous month, and are reflected as such in the JCLCIS. In PipeLine the receipt of shipments is reflected in the ending inventory of the previous month, which forces a large positive adjustment for that month. Since PipeLine shows the expected receipt in the following month, another large adjustment, this time negative, is created by the PipeLine software. The consultant has advised the SLO to change the date the shipments are scheduled to be received in PipeLine to the actual date the shipment has been received to avoid having these adjustments show up.

Installation and Training of CWICS at JAFPP

The consultant installed the CWICS that is currently used by the MOH to assist JAFPP in managing its inventory. The consultant advised the SLO to return to JAFPP to ensure that the system is set up correctly, that background data are entered correctly, and that transaction data are entered correctly.

After getting the current count on all of the contraceptive products, the consultant then asked to see the inventory book to verify that the inventory count matched the entries in the book. Due to time constraints, the consultant had only enough time to check one product, Femulen. The amount in the inventory book did not match the inventory count (the book amount exceeded the actual stock on hand). The consultant has advised the MOH Senior Logistics Officer to check the stock on hand against the accounts to ensure that all products are accounted for.

Development of User's Manual for Use with CWICS

The consultant contacted the General Manager of INFOTEC/Jordan to establish a contract for the development of a user's manual for the CWICS application. INFOTEC is the firm that developed CWICS for JSI/Jordan in 1999. A schedule with specific timelines was developed, and a general agreement was established while the consultant was in Jordan.

Consumption Forecasts and CPT Development

The consultant and the SLO developed forecasts through 2003 for the contraceptive products used in Jordan and developed CPTs for 2000. In developing the forecasts, the consultant learned that the SLO was using an average of the previous six months of consumption nationally, then adding 10 percent to the figure for the remaining six months. For the following years, the SLO took the annual average of consumption over the past year and added 10 percent to the figure. The consultant informed the SLO that this methodology was not recommended, and that she should use the PipeLine software projection tool as a starting point to forecast consumption and validate the projection by plotting two points on a graph using the average of two subsequent periods, then drawing a line to get an estimation of future consumption based on the trend.

Following development of the forecast for each product, the consultant and the SLO updated the PipeLine software with consumption projections, planned shipments for each contraceptive product through 2003, and completed the 2000 CPT forms. The consultant and the SLO then met with USAID to review the work.

Equipment and Files

Maintenance of equipment has become problematic. A photocopy machine in the LO's work area needs to be repaired, but the MCH apparently doesn't have the funds to fix it. For the time being, the Logistics Unit does have access to another machine in the building. Also, the LO is running out of file space for the monthly facility reports sent up through the directorates. Reports dating back to the beginning of 2000 are stacked on the LO's desk.

PHCI Project

At the present time, there are no plans for the USAID-funded PHCI project to provide funding for logistics activities. However, they do plan to follow-up with the MCH directorate to determine how their current activities may be able to support the JCLS.

Table 7.1. Follow-up Actions Needed

Action	Person(s) Responsible	Estimated Completion Date	Location of Work
Follow up with JAFPP regarding the removal of condoms that are expiring in September 2000 (60,250 pieces); consider moving some condoms that will be expiring in May 2001 elsewhere so they may be used before they expire.	Abeer Mowaswas (Senior Logistics Officer)	Ongoing through first quarter of 2001	Amman
Follow-up with JAFPP in ensuring proper use of the CWICS software.	Abeer Mowaswas (Senior Logistics Officer)	September 2000 and ongoing as needed	Amman
Conduct another inventory count at JAFPP and ensure inventory book is updated and correct.	Abeer Mowaswas (Senior Logistics Officer)	September 2000; periodically after (twice each year)	Amman
Regular visits to the MOH warehouse to ensure that the new warehouse manager is keeping the books correctly and that the products are stored appropriately	Abeer Mowaswas (Senior Logistics Officer)	September 2000; periodically after (monthly for one quarter, then quarterly)	Amman
Check on the remaining Norplant® implants in the MOH warehouse to ensure that they are in good shape before sending them to another country or program that will use them. Assist USAID in preparing them for transfer.	Abeer Mowaswas (Senior Logistics Officer); Dr. Sana Naffa (USAID)	September 30, 2000	Amman
Conduct periodic checks on the data entry performed by the logistics officer.	Abeer Mowaswas (Senior Logistics Officer)	Quarterly	Amman
Ensure that the shipment data in PipeLine match the data in the JCLCIS (particularly the dates received).	Abeer Mowaswas (Senior Logistics Officer)	Ongoing	Amman
Meet with the AIDS program coordinator to determine if more information is available to assess condom needs for the program.	Abeer Mowaswas (Senior Logistics Officer)	April 2001; then ongoing at periodic intervals	Amman
Review draft of CWICS User's Manual.	Gerry Breton (JSI/Arlington); Abeer Mowaswas (Senior Logistics Officer)	September 8, 2000	Arlington; Amman
Completion of CWICS User's Manual based on comments provided.	INFOTEC; Gerry Breton (JSI/Arlington)	September 19, 2000	Amman; Arlington
Follow-up TA trip to Jordan.	Gerry Breton (JSI/Arlington)	April–May 2001	Amman
Meet with responsible authorities of military hospitals to discuss issues surrounding nonreporting and data errors.	Abeer Mowaswas (Senior Logistics Officer)	Fourth Quarter 2000	Various locations (9 facilities)

Appendix A

Jordan Contraceptive Logistics Central Information System: Report Samples

CYP Report

Jordan Contraceptive Logistics
Report Period: Annual, 1998

MOH & HC Family Planning
All Facilities

Run Date: 29-Aug-00
Run Time: 8:35 AM

Contraceptives

Microgynon -- high dose oral

Facility Type	-#-	Dispensed	CYP Factor	CYP Value
Queen Alia Clinic	7	83	13	6
Arab Women Clinic	2	588	13	45
RMS Hospital	4	30	13	2
Red Crescent CPP	1	72	13	6
MOH Hospital	1	84	13	6
MOH CPP	8	6,457	13	497
Jordan University	1	547	13	42
JAFPP Clinic	20	13,306	13	1,024
Health Center	319	66,258	13	5,097
Child Health & Dev	1	639	13	49
RMS CPP	4	1,999	13	154
		90,063		6,928

Femulen -- low dose oral

Facility Type	-#-	Dispensed	CYP Factor	CYP Value
Child Health & Dev	1	475	13	37
MOH Hospital	1	65	13	5
RMS CPP	4	876	13	67
Red Crescent CPP	1	96	13	7
Queen Alia Clinic	7	44	13	3
MOH CPP	8	4,858	13	374
Jordan University	1	218	13	17
Health Center	319	34,052	13	2,619
RMS Hospital	4	63	13	5
Arab Women Clinic	2	428	13	33
JAFPP Clinic	20	6,250	13	481
		47,425		3,648

CYP Report

Jordan Contraceptive Logistics
Report Period: Annual, 1998

MOH & HC Family Planning
All Facilities

Run Date: 29-Aug-00
Run Time: 8:35 AM

Contraceptives

IUD -- 380T

Facility Type	-#-	Dispensed	CYP Factor	CYP Value
MOH Hospital	1	56	0.3	187
RMS Hospital	4	16	0.3	53
RMS CPP	4	617	0.3	2,057
Red Crescent CPP	1	60	0.3	200
Queen Alia Clinic	7	26	0.3	87
Jordan University	1	99	0.3	330
JAFPP Clinic	20	12,459	0.3	41,530
Health Center	319	11,086	0.3	36,953
Arab Women Clinic	2	231	0.3	770
MOH CPP	8	1,831	0.3	6,103
Child Health & Dev	1	104	0.3	347
		26,585		88,617

Condom -- 52mm

Facility Type	-#-	Dispensed	CYP Factor	CYP Value
Child Health & Dev	1	4,653	120	39
RMS Hospital	4	110	120	1
Red Crescent CPP	1	417	120	3
Queen Alia Clinic	7	730	120	6
MOH Hospital	1	635	120	5
MOH CPP	8	43,785	120	365
Jordan University	1	975	120	8
Health Center	319	520,466	120	4,337
Arab Women Clinic	2	1,952	120	16
RMS CPP	4	11,505	120	96
JAFPP Clinic	20	101,645	120	847
		686,873		5,724

CYP Report

Jordan Contraceptive Logistics
Report Period: Annual, 1998

MOH & HC Family Planning
All Facilities

Run Date: 29-Aug-00
Run Time: 8:35 AM

Contraceptives

Depo-Provera -- 30cc

Facility Type	-#-	Dispensed	CYP Factor	CYP Value
Queen Alia Clinic	7	56	4	14
Arab Women Clinic	2	53	4	13
RMS Hospital	4	4	4	1
Red Crescent CPP	1	18	4	5
MOH Hospital	1	12	4	3
MOH CPP	8	799	4	200
Jordan University	1	16	4	4
JAFPP Clinic	20	2,155	4	539
Health Center	319	3,008	4	752
Child Health & Dev	1	33	4	8
RMS CPP	4	213	4	53
		6,367		1,592

VFT -- 1 dose

Facility Type	-#-	Dispensed	CYP Factor	CYP Value
Child Health & Dev	1	0	120	0
MOH Hospital	1	0	120	0
RMS CPP	4	0	120	0
Red Crescent CPP	1	0	120	0
Queen Alia Clinic	7	0	120	0
MOH CPP	8	0	120	0
Jordan University	1	0	120	0
Health Center	319	1,419	120	12
RMS Hospital	4	0	120	0
Arab Women Clinic	2	0	120	0
JAFPP Clinic	20	1,434	120	12
		2,853		24

CYP Report

Jordan Contraceptive Logistics
Report Period: Annual, 1998

MOH & HC Family Planning
All Facilities

Run Date: 29-Aug-00
Run Time: 8:35 AM

Contraceptives

Norplant -- 1 dose

Facility Type	-#-	Dispensed	CYP Factor	CYP Value
MOH Hospital	1	0	0.2	0
RMS Hospital	4	0	0.2	0
RMS CPP	4	4	0.2	20
Red Crescent CPP	1	0	0.2	0
Queen Alia Clinic	7	0	0.2	0
Jordan University	1	2	0.2	10
JAFPP Clinic	20	48	0.2	240
Health Center	319	10	0.2	50
Arab Women Clinic	2	0	0.2	0
MOH CPP	8	99	0.2	495
Child Health & Dev	1	0	0.2	0
		163		815

LAM -- None

Facility Type	-#-	Dispensed	CYP Factor	CYP Value
Child Health & Dev	1	0	2	0
RMS CPP	4	0	2	0
Red Crescent CPP	1	0	2	0
Queen Alia Clinic	7	0	2	0
MOH Hospital	1	0	2	0
MOH CPP	8	0	2	0
Jordan University	1	0	2	0
Health Center	319	0	2	0
Arab Women Clinic	2	0	2	0
RMS Hospital	4	0	2	0
JAFPP Clinic	20	0	2	0
		0		0

Data Entry Error Report

Jordan Contraceptive Logistics System
Report Period: December, 1998

Run Date: August 29, 2000
MOH & HC Family Planning Program Run Time: 9:00 AM

Supplying Facility Amman Health Directorate **Supplier Code** 11000
Abu-Nseir (AMMAN) Health Center **Facility Code** 11904

Product	Opening	Receipts	Issue	Adjustment	Type	Closing	Avg	Required	Received	New User	Cont User
Microgynon	35	42	30	0		47	34	21	27	4	8
Femulen	29	47	57	0		19	46	73	73	6	18
IUD	11	23	7	-1	D	26	13	0	0	7	0
Condom	708	572	800	0		480	714	948	948	15	25
Depo-Provera	0	0	0	0		0	1	2	2	0	0
VFT	0	0	0	0		0	0	0	0	0	0
Norplant	0	0	0	0		0	0	0	0	0	0
LAM	0	0	0	0		0	0	0	0	0	0

Date Entered	Entered By	Changed On	Changed By
30-Jan-99	ADMIN	30-Jan-99	ADMIN

Comment
1 IUD was dropped during insertion.

Over Stocked Facilities

Jordan Contraceptive Logistics System Run Date: 29-Aug-00
Report Period: December, 1998 MOH & HC Family Planning Program Run Time: 9:05 AM
All Directorates

Contraceptives
Supplier: MCH001 MOH/MCH Directorate

Condom

Facility: JAF00 JAFPP Directorate
Type: JAFPP Directorate
Contact: Bassem Naqawa - Dr. Salma Al-Zuabi
Phone: 678083
Closing Balance: **464,044**
Average Monthly Consumption: **11,391**
Months of Supply: **40.7378**

Facility: D5000 Bani Kinana Health Directorate
Type: Health Directorate
Contact: Fatma Al-Zubi - Dr. Yahya Obeidat
Phone: 02-7585364
Closing Balance: **8,671**
Average Monthly Consumption: **1,362**
Months of Supply: **6.3664**

Facility: D3000 Ramtha Health Directorate
Type: Health Directorate
Contact: Fathiyeh Al-Ayyad
Phone: 02-283114 / 283830
Closing Balance: **10,180**
Average Monthly Consumption: **1,302**
Months of Supply: **7.8187**

Facility: G1000 Ajloon Health Directorate
Type: Health Directorate
Contact: Ansaf Al-Rabadhi - Dr. Hameed Abu-Abeela
Phone: 02-462317
Closing Balance: **7,815**
Average Monthly Consumption: **1,277**
Months of Supply: **6.1198**

Facility: W1000 Ma'n Health Directorate
Type: Health Directorate
Contact: Wijdan Qatawneh, Dr. Saleh Dwairi
Phone: 332135
Closing Balance: **5,908**
Average Monthly Consumption: **899**
Months of Supply: **6.5717**

TOTAL # of Sites: **5**

Depo-Provera

Facility: JAF00 JAFPP Directorate
Type: JAFPP Directorate
Contact: Bassem Naqawa - Dr. Salma Al-Zuabi
Phone: 678083
Closing Balance: **4,714**
Average Monthly Consumption: **260**
Months of Supply: **18.1308**

Facility: D1000 Irbid Health Directorate
Type: Health Directorate
Contact: Aneesa Al-Jammal – Dr. Mahmoud Al-Akash
Phone: 02-271141
Closing Balance: **215**
Average Monthly Consumption: **28**
Months of Supply: **7.6786**

Over Stocked Facilities

Jordan Contraceptive Logistics System Run Date: 29-Aug-00
Report Period: December, 1998 MOH & HC Family Planning Program Run Time: 9:05 AM
All Directorates

Contraceptives

Facility: 11000 Amman Health Directorate
Type: Health Directorate — Closing Balance: **150**
Contact: WM-Mona Ayed- md/ Khawla Kawa' — Average Monthly **22**
Phone: 5662184 - 5661171 — Consumption: Months of Supply: **6.8182**

Facility: W1000 Ma'n Health Directorate
Type: Health Directorate — Closing Balance: **89**
Contact: Wijdan Qatawneh, Dr. Saleh Dwairi — Average Monthly **12**
Phone: 332135 — Consumption: Months of Supply: **7.4167**

Facility: D3000 Ramtha Health Directorate
Type: Health Directorate — Closing Balance: **75**
Contact: Fathiyeh Al-Ayyad — Average Monthly **3**
Phone: 02-283114 / 283830 — Consumption: Months of Supply: **25.0000**

TOTAL # of Sites: 5

Femulen

Facility: JAF00 JAFPP Directorate
Type: JAFPP Directorate — Closing Balance: **13,794**
Contact: Bassem Naqawa - Dr. Salma Al-Zuabi — Average Monthly **759**
Phone: 678083 — Consumption: Months of Supply: **18.1739**

Facility: D3000 Ramtha Health Directorate
Type: Health Directorate — Closing Balance: **718**
Contact: Fathiyeh Al-Ayyad — Average Monthly **88**
Phone: 02-283114 / 283830 — Consumption: Months of Supply: **8.1591**

Facility: W1000 Ma'n Health Directorate
Type: Health Directorate — Closing Balance: **408**
Contact: Wijdan Qatawneh, Dr. Saleh Dwairi — Average Monthly **36**
Phone: 332135 — Consumption: Months of Supply: **11.3333**

TOTAL # of Sites: 3

IUD

Facility: JAF00 JAFPP Directorate
Type: JAFPP Directorate — Closing Balance: **9,520**
Contact: Bassem Naqawa - Dr. Salma Al-Zuabi — Average Monthly **1,330**
Phone: 678083 — Consumption: Months of Supply: **7.1579**

Over Stocked Facilities

Jordan Contraceptive Logistics System Run Date: 29-Aug-00
Report Period: December, 1998 MOH & HC Family Planning Program Run Time: 9:05 AM
All Directorates

Contraceptives

Facility: 71000 Zarqa Health Directorate
Type: Health Directorate — Closing Balance: **1,001**
Contact: Muntaha Al-Najjar- Dr. Hani Hamarsheh — Average Monthly Consumption: **133**
Phone: 09-986204 / 5 / 6 — Months of Supply: **7.5263**

Facility: P1000 Karak Health Directorate
Type: Health Directorate — Closing Balance: **595**
Contact: Neamat Mdanat - Dr. Nassar Ammareen — Average Monthly Consumption: **70**
Phone: 351244 — Months of Supply: **8.5000**

Facility: A1000 Balqa Health Directorate
Type: Health Directorate — Closing Balance: **503**
Contact: Dr. Sabah Madi – WM. Maha Al-Saket / Najah — Average Monthly Consumption: **66**
Phone: 05/555741 — Months of Supply: **7.6212**

Facility: D5000 Bani Kinana Health Directorate
Type: Health Directorate — Closing Balance: **177**
Contact: Fatma Al-Zubi – Dr. Yahya Obeidat — Average Monthly Consumption: **26**
Phone: 02-7585364 — Months of Supply: **6.8077**

Facility: D3000 Ramtha Health Directorate
Type: Health Directorate — Closing Balance: **270**
Contact: Fathiyeh Al-Ayyad — Average Monthly Consumption: **25**
Phone: 02-283114 / 283830 — Months of Supply: **10.8000**

Facility: G1000 Ajloon Health Directorate
Type: Health Directorate — Closing Balance: **188**
Contact: Ansaf Al-Rabadhi – Dr. Hameed Abu-Abeela — Average Monthly Consumption: **19**
Phone: 02-462317 — Months of Supply: **9.8947**

Facility: S1000 Tafeela Health Directorate
Type: Health Directorate — Closing Balance: **213**
Contact: Fatma Mahasneh – Dr. Khaled Thalji — Average Monthly Consumption: **9**
Phone: 341117 — Months of Supply: **23.6667**

Facility: A3000 South Shuna Health Directorate
Type: Health Directorate — Closing Balance: **114**
Contact: Tahani Alayyan – Dr. Khaled Arabiyat — Average Monthly Consumption: **6**
Phone: 05-571463 — Months of Supply: **19.0000**

Facility: W1000 Ma'n Health Directorate
Type: Health Directorate — Closing Balance: **77**
Contact: Wijdan Qatawneh, Dr. Saleh Dwairi — Average Monthly Consumption: **6**
Phone: 332135 — Months of Supply: **12.8333**

Over Stocked Facilities

Jordan Contraceptive Logistics System Run Date: 29-Aug-00
Report Period: December, 1998 MOH & HC Family Planning Program Run Time: 9:05 AM
All Directorates

Contraceptives

TOTAL # of Sites: 10

Microgynon

Facility: JAF00 JAFPP Directorate
Type: JAFPP Directorate
Contact: Bassem Naqawa – Dr. Salma Al-Zuabi
Phone: 678083

Closing Balance: **13,325**
Average Monthly Consumption: **1,815**
Months of Supply: **7.3416**

Facility: D3000 Ramtha Health Directorate
Type: Health Directorate
Contact: Fathiyeh Al-Ayyad
Phone: 02-283114 / 283830

Closing Balance: **1,588**
Average Monthly Consumption: **179**
Months of Supply: **8.8715**

Facility: W1000 Ma'n Health Directorate
Type: Health Directorate
Contact: Wijdan Qatawneh, Dr. Saleh Dwairi
Phone: 332135

Closing Balance: **1,123**
Average Monthly Consumption: **121**
Months of Supply: **9.2810**

Facility: A2000 Dir Alla Health Directorate
Type: Health Directorate
Contact: Sameera Sha'ban – Dr. Ahmad Hwarat
Phone: 05-573021

Closing Balance: **563**
Average Monthly Consumption: **91**
Months of Supply: **6.1868**

TOTAL # of Sites: 4

Norplant

Facility: JAF00 JAFPP Directorate
Type: JAFPP Directorate
Contact: Bassem Naqawa – Dr. Salma Al-Zuabi
Phone: 678083

Closing Balance: **57**
Average Monthly Consumption: **5**
Months of Supply: **11.4000**

TOTAL # of Sites: 1

VFT

Facility: JAF00 JAFPP Directorate
Type: JAFPP Directorate
Contact: Bassem Naqawa – Dr. Salma Al-Zuabi
Phone: 678083

Closing Balance: **2,360**
Average Monthly Consumption: **170**
Months of Supply: **13.8824**

TOTAL # of Sites: 1

Facility Stock Movement Report
Report Period: December, 1998

Jordan Contraceptive Logistics System
MOH & HC Family Planning Program

Run Date: 29-Aug-00
Run Time: 8:53 AM

G1000: Ajloon Health Directorate

Supplier: MCH001: MOH/MCH DIRECTORATE

Type: Health Directorate

Maximum Months on Hand: **6.0** Minimum Months on Hand: **1.0**

Commodities		Opening Balance	Receipts	Issues	Adjustments	Type	Closing Balance	Current MOS	Average Monthly Consumption	Maximum Stock	Re-Order Amount
Microgynon	high dose oral	346	300	102	0		544	5.1	107	642	120
Femulen	low dose oral	329	144	37	0		436	5.8	75	450	18
IUD	380T	202	0	14	0		188	9.9	19	114	0
Condom	52mm	5,790	2,600	921	346	+	7,815	6.1	1,277	7,662	0
Depo-Provera	30cc	3	25	11	0		17	2.4	7	42	25
VFT	1 dose	0	0	0	0		0	0.0	0	0	0
Norplant	1 dose	0	0	0	0		0	0.0	0	0	0
LAM	None	0	0	0	0		0	0.0	0	0	0

Comments
Please note that the midwife supervisor wrote for Depo that the closing balance is 28 instead of 3.
Computer Generated Adjustment of: 346
on 01-04-1999 at 11:04:51 for Condom

Stocked Out Facilities

Jordan Contraceptive Logistics System — Run Date:29-Aug-00
MOH & HC Family Planning Program — Report Period: December, 1998 — Run Time: 9:06 AM

All Directorates

Contraceptives

Supplier: MCH001: MOH/MCH Directorate

Product: Depo-Provera

Code: **71000**		Type:Health Directorate
Name: **Zarqa Health Directorate**		Phone:09-986204 / 5 / 6
Contact: Muntaha Al-Najjar – Dr. Hani Hamarsheh		Average Monthly **36**
Code: **M1000**		Type:Health Directorate
Name: **Mafraq Health Directorate**		Phone:02623107 / 6
Contact: Assistant Pharmacyst: Moh'd Takrori		Average Monthly **12**
Code: **Z1001**		Type:Health Directorate
Name: **Aqaba Health Directorate**		Phone:312465
Contact: Basma Jameel Al-Abed – Dr. Manal Yaseen		Average Monthly **9**
Code: **D5000**		Type:Health Directorate
Name: **Bani Kinana Health Directorate**		Phone:02-7585364
Contact: Fatma Al-Zubi – Dr. Yahya Obeidat		Average Monthly **4**

TOTAL # of 4

Product: Norplant

Code: **11000**		Type:Health Directorate
Name: **Amman Health Directorate**		Phone:5662184 - 5661171
Contact: WM-Mona Ayed – Khawla Kawa'		Average Monthly **1**

TOTAL # of 1

Product: VFT

Code: **12000**		Type:Health Directorate
Name: **East Amman Health Directorate**		Phone:4122118-4120177-4120
Contact: Pharmacyst:Ahmad Obweeni – A.Ph. Moh'd		Average Monthly **26**
Code: **71000**		Type:Health Directorate
Name: **Zarqa Health Directorate**		Phone:09-986204 / 5 / 6
Contact: Muntaha Al-Najjar – Dr. Hani Hamarsheh		Average Monthly **10**
Code: **11000**		Type:Health Directorate
Name: **Amman Health Directorate**		Phone:5662184 - 5661171
Contact: WM-Mona Ayed – Khawla Kawa'		Average Monthly **4**

TOTAL # of 3

Appendix B

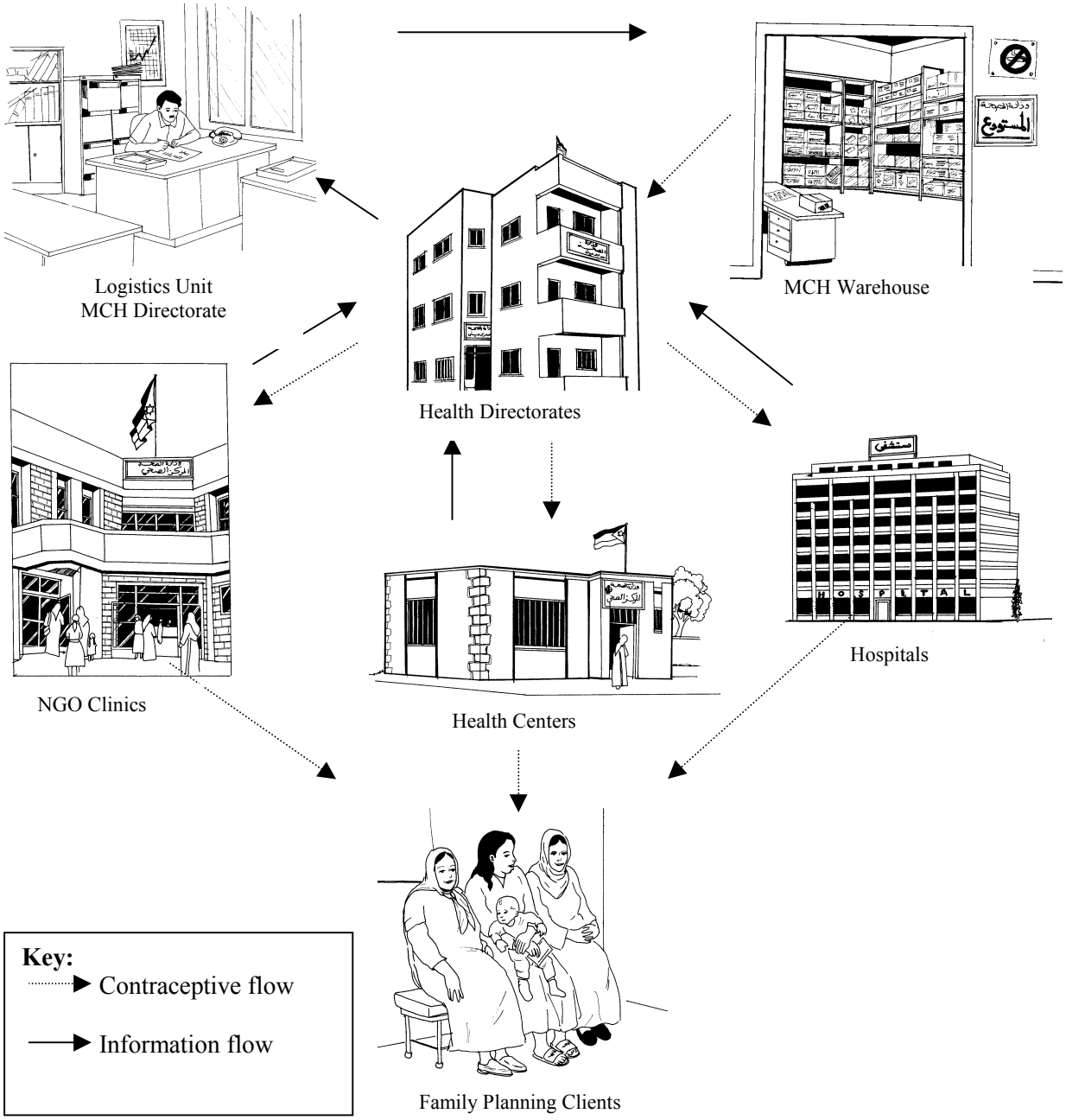
Jordan Contraceptive Logistics System: Activities and Personnel

Who	Actions	When
Health Center Midwife (family planning staff of hospital, NGO, and military facility)	Distributes contraceptives to clients and completes the *Daily Activity Register*	During the month
	Conducts a physical inventory of contraceptives Records information about contraceptives received and dispensed in the *Inventory Book* Calculates the health center's contraceptive needs Completes the *Health Center Monthly Contraceptive Order & Report Form* and takes it to the directorate's midwife supervisor Obtains contraceptive supplies from the directorate (military facilities obtain contraceptive supplies from the Royal Medical Stores)	Monthly
Directorate Midwife Supervisor	Supervises health center midwives	During the month
	Conducts a physical inventory of contraceptives Completes the *Directorate Monthly Contraceptive Report* and faxes it to the MCH Directorate Receives, reviews, and approves the Health Center Monthly Contraceptive Order & Report Forms Supplies contraceptives to the health centers, NGOs, and hospitals Records information about contraceptives received and issued in the *Inventory Book* Sends the original Directorate Monthly Contraceptive Report with the copies of the Health Center Monthly Contraceptive Order & Report Forms to the MCH Directorate	Monthly
	Obtains contraceptive supplies from the MCH warehouse	Quarterly
MCH Directorate MCH Warehouse Manager	Conducts physical inventory	Weekly
	Faxes copy of the recent entries in the *Inventory Book* to the senior logistics officer (SLO)	Weekly
	Ensures that the contraceptives are stored properly Issues contraceptives to all directorates	Quarterly
	Accepts contraceptive consignments, and ensures that physical inventory has been conducted before storing the supplies	During the year

Who	Actions	When
MCH Directorate Logistics Officer	Enters all the reports submitted by the health centers and directorates into the JCLCIS Follows up with any directorate or health center that has not submitted a report on time Generates a series of reports from JCLCIS for review by the SLO Participates in the monitoring and supervision trips to the health centers Conducts training on the JCLS when required	Monthly
	Generates a series of quarterly reports for the review of the SLO Assists in conducting physical inventory of the central MCH warehouse	Quarterly
MCH Directorate Senior Logistics Officer	Enters the weekly report from the central warehouse manager into the Central Warehouse Inventory Control System (CWICS)	Weekly
	Supervises input of the health centers' and directorates' report data into the JCLCIS Conducts random checks on the quality of the data entry into the JCLCIS Monitors nationwide stock levels Organizes the monitoring and supervision trips to the directorates and their SDPs Provides feedback to the midwives at health centers through a meeting forum	Monthly
	Determines directorate contraceptive needs Determines the national contraceptive supply needs, and coordinates with donors Conducts physical inventory of the supplies at the central MCH warehouse Provides feedback reports to the directorates	Quarterly
	Ensures that in-country quality assurance is conducted on the supplies received from donors	Need basis

Appendix C

In-Country Contraceptive Supply Chain


Logistics Unit
MCH Directorate
MCH Warehouse
Health Directorates
NGO Clinics
Hospitals
Health Centers
Family Planning Clients
Key:
Contraceptive flow
Information flow

Appendix D

1999 Assessment Instruments

1999 Assessment : Jordan Contraceptive Logistics System
Phase I Instrument, Health Centers

A. Contraceptive Supplies Provided at The Service Delivery Point

Obtain the following information on the contraceptives provided at this service delivery point from the midwife or nurse who is responsible for SDP family planning activities:

DATE_____

Name of Facility: _____

Type of Facility: MCH HC_____ CPP _____ NGO_____ Hospital_____

Name of Directorate: _____

Name of Person Interviewed

_____

Job Title: _____

Did this person receive Logistics Training? Yes_____ No_____

B. *Inventory Control Procedures*

200. Did the midwife receive her supplies by the end of the first week of the month?

1. Yes_____ 2. No_____ ;if no, when?_____

;if no, why?_____

201. Do you have a set date to go and give your report and pick up your supplies from the directorate?
1. Yes
2. No

202. Is the calculator available to determine the orders?
1. Yes
2. No

C. Logistics Management Information System (LMIS) FORMS

300. Is the manual available at the facility?
1. Yes
2. No

301. Is there an inventory book kept at this facility and it is up to date?
1. Yes
2. No

302. Is the facility using the new DAR and is it available?
1. Yes
2. No

303. Are prescription forms being used to record losses?
1. Yes
2. No
3. Can't determine.

304. Is the new reporting/ordering book being used and is available?
1. Yes
2. No

305. Using the last full month, does the monthly report total for dispensed match the amount recorded on the daily dispensed to user record?
(A variance of + or – 1 is allowed for each product)
1. Yes
2. No

PRODUCT	REPORTED	COUNT	DIFFERENCE Reported - Count Negative number would mean that SDP under-reported
01. MICROGYNON®			
02. LO-FEMENAL			
03. FEMULEN®			
04 CONDOMS			
05. IUDs			
06. DEPOPROVERA®			
07. NORPLANT®			

D. Inventory of Family Planning Commodities

400.

Note: If the facility does not supply a particular commodity, leave space blank.

Method/Brand	401. Inventory according to last month's report	402. Amount received this month	403. Amount dispensed to clients this month	404. Already recorded adjustments/ losses this month	405 Calculated Inventory 401+402 – 403 +/-404 = 405.	406. Physical Inventory Count	407. Difference between calculated and actual 406-405 = 407	408. Does the physical inventory match the report? +- 1 Condoms +- 5 (circle the answer)	409. Last 3 month average	410. MOS on Hand (to be computer calculated)	411. Using the central MIS, have there been any stockouts in the past 6 months
01.MICROGYNON®								1. Yes 2. No			1. Yes 2. No
02. LO-FEMENAL								1. Yes 2. No			1. Yes 2. No
03. FEMULEN®								1. Yes 2. No			1. Yes 2. No
04 CONDOMS								1. Yes 2. No			1. Yes 2. No
05. IUDs								1. Yes 2. No			1. Yes 2. No
06. DEPOPROVERA®								1. Yes 2. No			1. Yes 2. No
07. NORPLANT®								1. Yes 2. No			1. Yes 2. No

E. Storage Conditions

Note storage conditions and practices:		Yes	No	NA
501.	Does the storage area show any signs of water leakage?			
502.	Is the storage area adequately ventilated, so that the temperature does not exceed 40 degrees C (104 F)?			
503.	Are commodities exposed to direct sunlight?			
504.	Is the lighting adequate for working in the storage area?			
505.	Are contraceptives stored near or on the same shelves as chemicals or insecticides?			
506.	Are condoms stored near electric motors or where they will be directly exposed to florescent light?			
507.	Is there evidence of insects, rodents, or other pests in the storage area?			
508.	Is the storage area secure from theft?			
509.	Is fire safety equipment readily available and visible?			
510.	Is the storage area or the commodities themselves dirty?			
511.	Are supplies stored in an orderly organized fashion (supplies are not mixed together)?			
512.	Are damaged, expired, or unusable goods mixed in with usable commodities?			
513.	Are supplies distributed according to FEFO?			

***NA = Not applicable or not able to determine.**

F. Other comments

1999 Assessment : Jordan Contraceptive Logistics System
Phase I Instrument, Directorate

A. Contraceptive Supplies Provided at Directorate Level

Obtain the following information on the contraceptives provided at this Directorate from the person in charge of issuing contraceptive supplies:

DATE_____

Name of Directorate: _____

Name of Governorate: _____

Name of Person Interviewed _____

Job Title: _____

TRAINING

Did this person receive training? Yes_____ No_____

How many people at the directorate level received training? (supervisors)
(100)_____

How many of these people are still working at this level in the directorate? (supervisors)
(102)_____

How many midwives/nurses/doctors were trained in this directorate? (At SDPs)
(103)_____

How many of these people are still working at SDPs in the directorate? (104)_____

How many midwives or nurses need training in this directorate now? (At SDPs)
(105)_____
(only those people directly related to contraceptive logistics should be counted!)

How many midwives or nurse supervisors/doctors need training in this directorate now?
(106)_____
(only those people directly related to contraceptive logistics should be counted!)

B. Inventory Control Procedures

200. Did the midwife supervisor/storeroom manager pick-up her supplies at the MCH Directorate at least quarterly?

1. Yes_____ 2. No_____ ;if no, when?_____

;if no, why?_____

201. How many of this directorate's health centers/clinics/hospitals were supplied with contraceptives last month? _____

202. How many health centers/clinics/hospitals are there in this directorate?
_____

203. Is the calculator available to determine the orders and review reports?
1. Yes
2. No

C. Logistics Management Information System (LMIS) FORMS

300. Is the manual available at the facility?
1. Yes
2. No

301. Is there an inventory book kept at this facility and updated?
1. Yes
2. No

302. Is the new reporting book available and being used?
1. Yes
2. No

303. Are copies of all the green center reports kept on file and readily available?
1. Yes
2. No

304. Can the midwife supervisor/nurse locate the latest feedback report from the MCH Directorate?
1. Yes
2. No

D. Inventory of Family Planning Commodities

400.

Note:. If the facility does not supply a particular commodity, leave space blank.

Method/Brand	401. Inventory according to last month's report -	402. Amount received this month	403. Amount issued to SDPs this month	404. Already recorded adjustments/ losses this month	405 Calculated Inventory 401+402 – 403 +/-404 = 405.	406. Physical Inventory Count	407. Difference between calculated and actual 406-405 = 407	408. Does the physical inventory match the report? +- 1 Condoms +- 5 (circle the answer)	409. Last 3 month average	410. MOS on Hand (to be computer calculated) 406/409 to one decimal point	411. Using the central MIS, have there been any stockouts in the past 6 months
01.MICROGYNON®								1. Yes 2. No			1. Yes 2. No
02. LO-FEMENAL								1. Yes 2. No			1. Yes 2. No
03. FEMULEN®								1. Yes 2. No			1. Yes 2. No
04 CONDOMS								1. Yes 2. No			1. Yes 2. No
05. IUDs								1. Yes 2. No			1. Yes 2. No
06. DEPOPROVERA®								1. Yes 2. No			1. Yes 2. No
07. NORPLANT®								1. Yes 2. No			1. Yes 2. No

E. Storage Conditions

Note storage conditions and practices:		Yes	No	NA*
501.	Does the storage area show any signs of water leakage?			
502.	Is the storage area adequately ventilated, so that the temperature does not exceed 40 degrees C (104 F)?			
503.	Are commodities exposed to direct sunlight?			
504.	Is the lighting adequate for working in the storage area?			
505.	Are contraceptives stored near or on the same shelves as chemicals or insecticides?			
506.	Are condoms stored near electric motors or where they will be directly exposed to florescent light?			
507.	Is there evidence of insects, rodents, or other pests in the storage area?			
508.	Is the storage area secure from theft?			
509.	Is fire safety equipment readily available and visible?			
510.	Is the storage area or the commodities themselves dirty?			
511.	Are supplies stored in an orderly organized fashion (supplies are not mixed together)?			
512.	Are commodities stacked neatly on shelves or pallets at least 10 cm/4 inches off the floor, at least 30 cm/1 foot away from exterior walls, in stacks no more than 2.5 m/8 feet high, with products separated from each other			
513.	Are damaged, expired, or unusable goods mixed in with usable commodities?			
514.	Are supplies distributed according to FEFO?			

***NA = Not applicable or not able to determine.**

F. Other comments

1999 Assessment : Jordan Contraceptive Logistics System Phase II Instrument, USAID

CONTEXT AND HISTORY

1. What was the origin of the Mission's interest in improving the availability of contraceptives by improving the logistics system?

2. What was the status of the contraceptive logistics system before the intervention of FPLM technical assistance?

3. How did the Mission decide to have a resident advisor versus short-term technical assistance over an extended period of time?

SYSTEM PERFORMANCE AND ACHIEVEMENTS

1. The Mission has made a significant investment in time and resources to improve the contraceptive logistics system. Has the investment resulted in anticipated achievements?

2. Have the results been worth the investment?

3. What do you consider the principal successes of the system over the past three years?

4. What have been some of the frustrating or difficult experiences over the past three years? (Probe for constraints and barriers to results)

5. Do you think that MOH managers and policymakers are using the data provided by the logistics system to inform their decisions? If yes, what are they using it for? (Probe for logistics-related vs. non-logistics related FP program decisions). If no, why not? What would need to happen for them to use the data?

SUSTAINABILITY

1. What do you think is the current state of the contraceptive logistics system?

2. As FPLM prepares to phase out, what chance do you think the MOH has of sustaining its contraceptive logistics system?

3. What do you view as the potential threats to the MOH effectively maintaining the system?

4. What do you think the MOH needs to do to sustain the system in the long-term? (Probe for commitment to training strategy)

5. What do you think the MOH level of commitment is to do what they need to do to sustain the system?

6. What will USAID need to do to support the MOH in their effort toward sustainability?

FPLM/JORDAN TECHNICAL ASSISTANCE STRATEGY

1. How has research (i.e., monitoring and evaluation data) played a role in the establishment of the system?

2. Do you think this data has played a role in securing MOH commitment to improving and sustaining the logistics system?

3. Do you think that FPLM has been successful in transferring logistics skills to key MOH counterparts?

4. Do you think the nationwide training has been successful at transferring skills in logistics to MOH personnel at all levels of the system?

5. To what extent can the achievements of the system be attributed to the specific individuals who have been most involved?

6. What are the key logistics tools that have been institutionalized within the MOH system? Do you think that the system has been institutionalized to a sufficient degree to be able to withstand turnover of key positions within the MOH?

7. Do you see any unique elements in the way FPLM has provided technical assistance in comparison to other CA's?

CONTRACTOR PERFORMANCE

1. What is your perception of the overall performance of JSI/FPLM technical assistance? (Probe for assistance provided by resident advisor and assistance provided by STTA)

2. What level of commitment does the Mission have toward supporting continued short-term TA by FPLM over the next few years?

CONTRACEPTIVE SECURITY

1. What is the Mission's commitment to continuing contraceptive donations to meet public sector need over the short and long-term future?

2. If Mission does not intend on continuing contraceptive donations, does AID intend to prepare the MOH to procure their own contraceptives?

3. If AID intends to phase out of donations, is there a transition strategy in place? Has AID discussed this strategy with MOH counterparts?

4. What is the Mission's perception of other donor commitments to ensuring contraceptive availability in Jordan?

5. What are the potential threats to contraceptive availability in Jordan?

INTEGRATION OF DRUGS AND CONTRACEPTIVES

1. What do you think of the status of drug availability in Jordan?

2. Do you think the drug and contraceptive systems should be integrated? Why/why not?

3. Do you think the drug logistics system could benefit from a logistics system like the one now used for contraceptives?

4. What do you think is the level of MOH and USAID commitment to improving drug availability in Jordan? (Probe for logistics system for drugs)

JORDAN CONTRACEPTIVE LOGISTICS SYSTEM

1999 Assessment , Phase II Instrument

DIRECTORATE INTERVIEW

OCTOBER / NOVEMBER 1999

NAME : _____ **DATE :** ___ /___ / ____

REGION : _____ **CITY :** _____

DIRECTORATE: _____

TITLE / POSITION : _____ **# YEARS IN POSITION** _____

Section I : Training

Q1.1 **Have you been trained by the Ministry of Health in the logistics of contraceptive supply?** **Date of Training : _____ / _____**	***1.1.1 Yes*** **1.1.2 No (→ Q. 2.1)**
Q.1.2 **What were the main topics of the training?**	**2.1**_____ **2.2**_____ **2.3**_____ **2.4**_____ **2.5**_____
Q.1.3 **What was your overall impression of the training?** *(Interviewer : Probe for their perception of quality, content, applicability to their current job)*	
Q.1.4 **What, if anything, would you have wanted to change about the training?** *(Interviewer : Probe for whether they would add / delete topics , whether they needed more training in certain areas, etc.)*	
Q.1.5 **Have you trained anyone else in contraceptive logistics?** *(i.e., lower level personnel)*	**1.5.1 Yes** **1.5.2 No (→ Q. 2.1)**
Q.1.6 **If yes, how many have you trained? What are their positions/ titles?**	**1.6.1** _____

Section II : JCLS Reports and Forms

Q.2.1 **Are you responsible for contraceptive logistics for this directorate?** **What do you think are your most important responsibilities in logistics?**	**2.1.1 Yes** **2.1.2 No (→ Q. 3.1)**
Q.2.2 **What are you doing now (with regard to contraceptive logistics) that you were not doing before?** *(Interviewer : Probe for whether work is easier / harder than before ; increased / decreased number of responsibilities; more / less time-consuming to manage contraceptives)*	
Q.2.3 **Which forms and reports do you fill out with regard to contraceptive logistics?**	**2.3.1**_____ **2.3.2**_____ **2.3.3**_____ **2.3.4**_____
Q.2.4 **What do you think of the forms/reports at the directorate and health center levels ? Do you use the information collected? How?** *(Interviewer : Probe for ease of completion; time needed to complete forms/reports; frequency of reporting; any problems with data)*	
Q.2.6 **Do you use the directorate logistics manual?** **What are the most common items for which you refer to the manual?**	**2.6.1 Yes** **2.6.2 No (→ Q. 3.1)**

Section III : Product Availability

Q.3.1 **Has the number of contraceptive stockouts changed at the directorate and the health centers since the new logistics system was implemented? If yes, how?** ***Directorate:*** **_____ Increased _____ Decreased _____ Stayed the same** **Methods:** ***Health Centers:*** **_____ Increased _____ Decreased _____ Stayed the same** **Methods:**	**3.1.1 Yes** **3.1.2 No (→ Q. 3.3)**
Q.3.2 **Has there been an increase in the number of family planning clients since the new logistics system was implemented?**	**3.2.1 Yes** **3.2.2 No (→ Q. 3.3)**
Q.3.3 **Do you think there is a relationship between the amount of contraceptives that the health centers have in stock and whether or not people come for family planning services? Why or why not?**	
Q.3.4 **How are drugs managed differently from contraceptives? Do you think the logistics systems for drugs and contraceptives should be integrated? Why or why not?**	
Q. 3.5 **Are you able to pick up supplies when you need to? Why or why not? Are the clinics able to pick up their supplies when they are supposed to? Why or why not?**	

Q.3.6

Do you think that the new logistics system has had an impact on the quality of family planning services provided at this health center? Why or why not?

Additional Comments :

JORDAN CONTRACEPTIVE LOGISTICS SYSTEM

1999 Assessment, Phase II Instrument

HEALTH CENTER INTERVIEW

October / November 1999

NAME : _____ **DATE :** ___ /___ / ____

REGION : _____ **CITY :** _____

HEALTH CENTER : _____

Title / Position : _____ ***# Years in Position :*** _____

Section I : Training

Q1.1 **Have you been trained by the Ministry of Health in the logistics of contraceptive supply?** **Date of Training : _____ / _____**	**1.1.1 Yes** **1.1.2 No (→ Q. 2.1)**
Q.1.2 **What were the main topics of the training?**	**2.1**_____ **2.2**_____ **2.3**_____ **2.4**_____ **2.5**_____
Q.1.3 **What was your overall impression of the training?** *(Interviewer : Probe for their perception of quality, content, applicability to their current job)*	
Q.1.4 **What, if anything, would you have wanted to be different about the training?** *(Interviewer : Probe for whether they would add / delete topics , whether they needed more training in certain areas, etc.)*	
Q.1.5 **Have you trained anyone else in contraceptive logistics?**	**1.5.1 Yes** **1.5.2 No (→ Q. 2.1)**
Q.1.6 **If yes, how many have you trained? What are their positions/ titles?**	**1.6.1** _____

Section II : JCLS Reports and Forms

Q.2.1 **Are you responsible for contraceptive logistics at this health center?** **What do you think are your most important responsibilities in logistics?**	**2.1.1 Yes** **2.1.2 No (→ Q. 3.1)**
Q.2.2 **What are you doing now (with regard to contraceptive logistics) that you were not doing before?** (Interviewer : Probe for whether work is easier /harder than before ; increased /decreased number of responsibilities; more /less time-consuming to manage contraceptives)	
Q.2.3 **Which forms and reports do you fill out with regard to contraceptive logistics?**	***2.3.1***_____ **2.3.2**_____ **2.3.3**_____ **2.3.4**_____
Q.2.4 **What do you think of the forms/reports? Do you use the information collected? How?** (Interviewer : Probe for ease of completion; time needed to complete forms/reports; frequency of reporting; any problems with data)	
Q.2.6 ***Do you use the health center logistics manual?*** **What are the most common items for which you refer to the manual?**	**2.6.1 Yes** **2.6.2 No (→ Q. 3.1)**

Section III : Product Availability

Q.3.1 **Has the number of contraceptive stockouts changed since the new logistics system was implemented? If yes, how?** **_____ Increased _____ Decreased _____ Stayed the same** **Methods:**	**3.1.1 Yes** **3.1.2 No (→ Q. 3.3)**
Q.3.2 **Has there been an increase in the number of family planning clients since the new logistics system was implemented?**	**3.2.1 Yes** **3.2.2 No (→ Q. 3.3)**
Q.3.3 **Do you think there is a relationship between the amount of contraceptives you have in stock and whether or not people come to the clinic? Why or why not?**	
Q.3.4 **How are drugs managed differently from contraceptives? Do you think the logistics systems for drugs and contraceptives should be integrated? Why or why not?**	
Q. 3.5 **When do you pick up your supplies? Do you have any problems with picking them up in a timely manner?**	

Q.3.6

Do you think that the new logistics system has had an impact on the quality of family planning services provided at this health center? Why or why not?

Additional Comments :

Appendix E

Logistics Composite Indicator Findings: 1997–1999

Composite Indicators - Program Progress

Jordan MOH

Whole System

Element	*sub-element*	*BaseLine*		*Mid-Term*		*Final*	
		P	***S***	***P***	***S***	***P***	***S***
LMIS	A) Program has basic elements of LMIS. Max 4 pts	2	3	4	3	4	4
	B) LMIS information is used in management decision making. Max 4 pts	1	1	4	2	4	4
	C) LMIS information is fed back to all lower levels in the distribution system. Max 2 pts	0	0	1	1	2	2
	D) Commodities data are validated by cross-checking with other data sources. Max 2 pts	1	1	2	1	2	1
	LMIS sub score (Max 12 pts)	4	5	11	7	12	11
	percent Change			175%	40%	9%	57%
FORE	A) Periodic forecasts of consumption are prepared, updated, and validated. Max 4 pts	1	0	4	2	4	2
	B) Forecasts are incorporated into cost analysis and budgetary planning. Max 4 pts	0	0	2	1	2	4
	FORE sub score (Max 8 pts)	1	0	6	3	6	6
	% Change			500%		0%	100%
PROC	A) Consumption forecasts are used to determine short-term procurement plans. Max 4 pts	1	0	4	1	4	4
	B) Right amount of contraceptives are obtained in appropriate time frame. Max 4 pts	1	0	4	2	4	4
	PROC sub score (Max 8 pts)	2	0	8	3	8	8
	% Change			300%		0%	167%
WARE	A) Adequacy of storage capacity and conditions. Max 4 pts	2	3	3	3	2	4
	B) Conducts at least one physical inventory of contraceptives per year at each warehouse. Max 2 pts	1	1	2	2	2	2
	C) Knows & complies with standards for maintaining product quality. Max 2 pts	1	2	1	2	1	2
	D) Issues stock according to first-to-expire, first-out (FEFO) inventory control procedures. Max 4 pts	1	1	4	4	3	4
	WARE sub score (Max 12 pts)	5	7	10	11	8	12
	% Change			100%	57%	-20%	9%

Whole System

Element	*sub-element*	*BaseLine*		*Mid-Term*		*Final*	
		P	***S***	***P***	***S***	***P***	***S***
DIST	A) Has appropriate distribution system and schedule for stocking each level. Max 4 pts	0	0	4	4	4	4
	B) Each level is stocked adequately. Max 4 pts	0	0	3	4	4	4
	C) Minimal stockouts have been experienced during the previous year. Max 4 pts	0	0	3	4	4	4
	D) Has a system for tracking and documenting system losses. Max 2 pts	0	0	2	2	2	2
	E) Has adequate transportation system for moving supplies. Max 4 pts	2	3	3	4	4	4
	DIST sub score (Max 18 pts)	2	3	15	18	18	18
	% Change			650%	500%	20%	0%
ORGN	A) An appropriate logistics unit exists; the unit has adequate resources; and the Logistics Officer-in-Charge has adequate authority. Max 4 pts	0	0	4	2	3	2
	B) Effective supervision is maintained at all levels and written policies and procedures exist. Max 4 pts	0	0	3	3	4	3
	C) Has a logistics training plan and an adequate number of active personnel have been trained in logistics. Max 2 pts	0	0	2	2	2	2
	D) Has sufficient personnel performing appropriate logistics activities. Max 4 pts	2	3	4	3	4	3
	ORGN sub score (Max 14 pts)	2	3	13	10	13	10
	% Change			550%	233%	0%	0%
PLCY	A) Logistics information is provided to appropriate policymakers. Max 4 pts	2	1	3	2	3	3
	PLCY sub score (Max 4 pts)	2	1	3	2	3	3
	% Change			50%	100%	0%	50%
ADAP	A) Entire logistics system has ability to adapt to changes. Max 4 pts	0	0	3	3	2	2
	ADAP sub score (Max 4 pts)	0	0	3	3	2	2
	% Change					-33%	-33%
	Jordan MOH, Whole System Score	**24**	**23**	**87**	**67**	**87**	**89**
				257%	**186%**	**0%**	**33%**

Score Summary

Baseline -	***Date***	***Name of Scorer***	***P Score***	***S Score***
	12-Feb-1997	Consensus	24	23
Mid-term -	***Date***	***Name of Scorer***	***P Score***	***S Score***
	10-Mar-1999	Consensus	87	67
Final -	***Date***	***Name of Scorer***	***P Score***	***S Score***
	08-Dec-1999	Consensus	87	89

CISS Scores

Jordan MOH *Scored by:* **Consensus**

Level: **Whole System** *Period:* **Baseline**

Question	*P*	*S*	*Comment*
Logistics Management Information System	**4** */ 12*	**5** */ 12*	
A Program has basic elements of LMIS.	2 */ 4*	3 */ 4*	LIMS is missing losses/adjustments. Records are kept, but no documentation exists on how to use the forms. The directorate level does not report any of the information for that level.
B LMIS information is used in management decision making.	1 */ 4*	1 */ 4*	Some midwife supervisors at the directorate level will use the clinic level information to determine supply requirements.
C LMIS information is fed back to all lower levels in the distribution system.	0 */ 2*	0 */ 2*	
D Commodities data are validated by cross-checking with other data sources.	1 */ 2*	1 */ 2*	Checking is supposedly being done by outside audit authority in MOH.
Forecasting	**1** */ 8*	**0** */ 8*	
A Periodic forecasts of consumption are prepared, updated, and validated.	1 */ 4*	0 */ 4*	CDC prepared forecast last year-data used is questionable.
B Forecasts are incorporated into cost analysis and budgetary planning.	0 */ 4*	0 */ 4*	
Procurement/Obtaining Supplies	**2** */ 8*	**0** */ 8*	
A Consumption forecasts are used to determine short-term procurement plans.	1 */ 4*	0 */ 4*	CDC did forecast last year.
B Right amount of contraceptives are obtained in appropriate time frame.	1 */ 4*	0 */ 4*	
Warehousing and Storage	**5** */ 12*	**7** */ 12*	
A Adequacy of storage capacity and conditions.	2 */ 4*	3 */ 4*	Storage space is only a problem for some of the clinics and directorates. The Central warehouse is under current renovation, but will be too small for any substantial increase in supplies. No written guidelines of any kind.
B Conducts at least one physical inventory of contraceptives per year at each warehouse.	1 */ 2*	1 */ 2*	Only real warehouse is the central one and the records show that there is only a cursory physical inventory of supplies.
C Knows & complies with standards for maintaining product quality.	1 */ 2*	2 */ 2*	There seems to be some policy about destroying expired products at the directorate level.
D Issues stock according to first-to-expire, first-out (FEFO) inventory control procedures.	1 */ 4*	1 */ 4*	Hard to tell now since most of the stock is very new. Central warehouse does not always strictly follow FEFO.
Distribution	**2** */ 18*	**3** */ 18*	
A Has appropriate distribution system and schedule for stocking each level.	0 */ 4*	0 */ 4*	
B Each level is stocked adequately.	0 */ 4*	0 */ 4*	
C Minimal stockouts have been experienced during the previous year.	0 */ 4*	0 */ 4*	
D Has a system for tracking and documenting system losses.	0 */ 2*	0 */ 2*	
E Has adequate transportation system for moving supplies.	2 */ 4*	3 */ 4*	The systems uses both MOH and private vehicles. No vehicles are directly allocated for transporting contraceptives, but vehicles seem to be available upon requests for many directorates.
Organization and Staffing	**2** */ 14*	**3** */ 14*	
A An appropriate logistics unit exists; the unit has adequate resources; and the Logistics Officer-in-Charge	0 */ 4*	0 */ 4*	There has been a warehouse manager, but no real logistics unit.

	has adequate authority.			
B	Effective supervision is maintained at all levels and written policies and procedures exist.	0 / 4	0 / 4	For other Family Planning matters, but not for contraceptive logistics.
C	Has a logistics training plan and an adequate number of active personnel have been trained in logistics.	0 / 2	0 / 2	
D	Has sufficient personnel performing appropriate logistics activities.	2 / 4	3 / 4	Looking at the whole pipeline.
Policy		**2** / 4	**1** / 4	
A	Logistics information is provided to appropriate policymakers.	2 / 4	1 / 4	

CISS Scores

Jordan MOH *Scored by:* **Consensus**

Level: **Whole System** *Period:* **Mid-term**

Question	*P*	*S*	*Comment*
Logistics Management Information System	**11** */ 12*	**7** */ 12*	
A Program has basic elements of LMIS.	4 */ 4*	3 */ 4*	When the senior logistics officer position and the logistics officer position are made permanent, the sustainability factor could rise to the max.
B LMIS information is used in management decision making.	4 */ 4*	2 */ 4*	Still the RA is very involved in this issue, but the SLO is progressing in this area.
C LMIS information is fed back to all lower levels in the distribution system.	1 */ 2*	1 */ 2*	We are still experimenting with what the feedback reports should look like and how to train the directorate level supervisors in interpreting the data they are given.
D Commodities data are validated by cross-checking with other data sources.	2 */ 2*	1 */ 2*	Still the RA takes the lead in this activity, but the SLO is progressing in this area.
Forecasting	**6** */ 8*	**3** */ 8*	
A Periodic forecasts of consumption are prepared, updated, and validated.	4 */ 4*	2 */ 4*	The RA takes the lead in this activity, but the SLO is progressing in this area.
B Forecasts are incorporated into cost analysis and budgetary planning.	2 */ 4*	1 */ 4*	We have not done any forecasting that include warehousing and transport costs.
Procurement/Obtaining Supplies	**8** */ 8*	**3** */ 8*	
A Consumption forecasts are used to determine short-term procurement plans.	4 */ 4*	1 */ 4*	The RA takes the lead in this activity, but the SLO is progressing in this area.
B Right amount of contraceptives are obtained in appropriate time frame.	4 */ 4*	2 */ 4*	The RA takes the lead in this activity, but the SLO is progressing in this area.
Warehousing and Storage	**10** */ 12*	**11** */ 12*	
A Adequacy of storage capacity and conditions.	3 */ 4*	3 */ 4*	Storage conditions are now excellent, but we have not done a study of future needs for storage space as the program is still small.
B Conducts at least one physical inventory of contraceptives per year at each warehouse.	2 */ 2*	2 */ 2*	
C Knows & complies with standards for maintaining product quality	1 */ 2*	2 */ 2*	We do not have a formal procedure for capturing client complaints regarding product quality. The program does keep in constant contact with the field and discusses any issues that are orally reported.
D Issues stock according to first-to-expire, first-out (FEFO) inventory control procedures.	4 */ 4*	4 */ 4*	
Distribution	**15** */ 18*	**18** */ 18*	
A Has appropriate distribution system and schedule for stocking each level.	4 */ 4*	4 */ 4*	
B Each level is stocked adequately.	3 */ 4*	4 */ 4*	The program has seen a lot of improvement, but as training has only recently been completed nation-wide, it will still take a few more months before everyone has adjusted their inventories according the prescribed plan.
C Minimal stockouts have been experienced during the previous year.	3 */ 4*	4 */ 4*	The program has already reached a 68% non stock-out rate for any commodity, and expects to be a much higher rate at the end of the year.
D Has a system for tracking and documenting system losses.	2 */ 2*	2 */ 2*	
E Has adequate transportation system for moving supplies.	3 */ 4*	4 */ 4*	Transportation has not been a real problem, but the program

has not done anything

for other purposes

with vehicle maintenance as the vehicles used are primarily

within the directorates.

Organization and Staffing	**13** */ 14*	**10** */ 14*	
A An appropriate logistics unit exists; the unit has adequate resources; and the Logistics Officer-in-Charge has adequate authority.	4 */ 4*	2 */ 4*	Sustainability will rise when the two current positions of SLO and LO are made permanent within the MCH directorate.
B Effective supervision is maintained at all levels and written policies and procedures exist.	3 */ 4*	3 */ 4*	
C Has a logistics training plan and an adequate number of active personnel have been trained in logistics.	2 */ 2*	2 */ 2*	
D Has sufficient personnel performing appropriate logistics activities.	4 */ 4*	3 */ 4*	
Policy	**3** */ 4*	**2** */ 4*	
A Logistics information is provided to appropriate Policymakers.	3 */ 4*	2 */ 4*	The RA still takes the lead in these matters, although the SLO in the MOH is always involved.

Jordan MOH

Scored by: **Consensus**

Level: **Whole System**

Period: **Mid-term**

Question	*P*	*S*	*Comment*
Adaptability	**3** */ 4*	**3** */ 4*	
A Entire logistics system has ability to adapt to changes.	3 */ 4*	3 */ 4*	The program now relies solely on USAID for supplies, but the SLO is capable of contracting other agencies for support if needed.

CISS Scores

Jordan MOH *Scored by:* **Consensus**

Level: **Whole System** *Period:* **Final**

Question	*P*	*S*	*Comment*
Logistics Management Information System	**12** */ 12*	**11** */ 12*	
A Program has basic elements of LMIS.	4 / 4	4 / 4	
B LMIS information is used in management decision making.	4 / 4	4 / 4	
C LMIS information is fed back to all lower levels in the distribution system.	2 / 2	2 / 2	
D Commodities data are validated by cross-checking with other data sources.	2 / 2	1 / 2	
Forecasting	**6** */ 8*	**6** */ 8*	
A Periodic forecasts of consumption are prepared, updated, and validated.	4 / 4	2 / 4	
B Forecasts are incorporated into cost analysis and budgetary planning.	2 / 4	4 / 4	
Procurement/Obtaining Supplies	**8** */ 8*	**8** */ 8*	
A Consumption forecasts are used to determine short-term procurement plans.	4 / 4	4 / 4	
B Right amount of contraceptives are obtained in appropriate time frame.	4 / 4	4 / 4	
Warehousing and Storage	**8** */ 12*	**12** */ 12*	
A Adequacy of storage capacity and conditions.	2 / 4	4 / 4	
B Conducts at least one physical inventory of contraceptives per year at each warehouse.	2 / 2	2 / 2	
C Knows & complies with standards for maintaining product quality.	1 / 2	2 / 2	
D Issues stock according to first-to-expire, first-out (FEFO) inventory control procedures.	3 / 4	4 / 4	
Distribution	**18** */ 18*	**18** */ 18*	
A Has appropriate distribution system and schedule for stocking each level.	4 / 4	4 / 4	
B Each level is stocked adequately.	4 / 4	4 / 4	
C Minimal stockouts have been experienced during the previous year.	4 / 4	4 / 4	
D Has a system for tracking and documenting system losses.	2 / 2	2 / 2	
E Has adequate transportation system for moving supplies.	4 / 4	4 / 4	
Organization and Staffing	**13** */ 14*	**10** */ 14*	
A An appropriate logistics unit exists; the unit has adequate resources; and the Logistics Officer-in-Charge has adequate authority.	3 / 4	2 / 4	
B Effective supervision is maintained at all levels and written policies and procedures exist.	4 / 4	3 / 4	
C Has a logistics training plan and an adequate number of active personnel have been trained in logistics.	2 / 2	2 / 2	
D Has sufficient personnel performing appropriate logistics activities.	4 / 4	3 / 4	
Policy	**3** */ 4*	**3** */ 4*	

A Logistics information is provided to appropriate policymakers.	3 / 4	3 / 4
Adaptability	**2 / 4**	**2 / 4**
A Entire logistics system has ability to adapt to changes.	2 / 4	2 / 4

Appendix F

Summary Table of Indicator Results

INDICATOR	BASELINE, 1997	FOLLOW-UP, 1999
Percent of *directorates* stocked out of any of the four main contraceptives at the time of assessment visit	35 %	0 %
Percent of *health centers* stocked out of any of the four main contraceptives at the time of assessment visit	25 %	4 %
Percent of *directorates* stocked out of any of the four main contraceptives at in the last 6 months	72 %	5 %
Percent of *health centers* stocked out of any of the four main contraceptives in the last 6 months	85 %	10 %
Percent of *directorates* storing contraceptives away from chemicals and pesticides	84 %	100 %
Percent of *health centers* storing contraceptives away from chemicals and pesticides	75 %	97 %
Percent of *directorates* correctly organizing contraceptives	58 %	100 %
Percent of *health centers* correctly organizing contraceptives	57 %	96 %
Percent of *health centers* storing contraceptives according to FEFO[a]	N / A	77 %
Percent of *directorates* storing contraceptives according to FEFO	N / A	90 %
Percent of *directorates* where all products' inventories match records	25 %	52 %
Percent of *health centers* where all products' inventories match records	30 %	63 %
Percent of *health centers* where monthly report matched dispensed to user report figures recorded on the daily activity register	65 %	90 %
Percent of *directorates* where logistics manual was available[b]	N / A	95 %
Percent of *health centers* where logistics manual was available	N / A	91 %

Notes:

[a] Unable to determine in 1997 whether or not FEFO was being followed

[b] Logistics manual was not yet developed in 1997

Appendix G
Principal Contacts

USAID/Jordan
William Goldman, Director, O/PFH
Eileen Oldwine, former Director, O/PFH
Dr. Salwa Bitar Qteit, Project Management Specialist
Lina Qushair Khoury, Project Management Assistant

Ministry of Health

Dr. Osama Badran, Director, MCH Directorate
Dr. Zuheir Taif, Director, Directorate of Primary Health Care
Dr. Akef al Azab, MCH Deputy Director, Head of Child Health
Abeer Mowaswas, MCH Senior Logistics Officer
Muna al Kharim, MCH Logistics Officer
Iman al Basheer, Manager, MCH Warehouse

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Basem Abou Ra'ad, Executive Director

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Walter Proper, Resident Advisor, FPLM/Jordan
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Carolyn Hart, Policy Advisor, FPLM/Washington
Sangeeta Raja, Logistics Advisor, FPLM/Washington

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